THE OHIO

MEDICAL AND SURGICAL JOURNAL.

Vol. 12. Columbus, May 1, 1860. No. 5.

PART FIRST.

ORIGINAL COMMUNICATIONS.

Synovitis: a clinical lecture delivered at the Hospital of the Ohio Penitentiary, Jan. 14, 1860, in the presence of the class of Starling Medical College, by J. W. HAMILTON, Professor of Surgery. Reported by T. B. Hamilton, A. B., student of medicine.

I am able to-day, gentlemen, to present you an assemblage of eleven cases of synovitis, implicating all the large articulations except the ilio-femoral, and showing the various modes of origin, stages, incidents, and sequela of the disease. It is scarcely compatible with the circumstances attending an ordinary course of lectures on surgery, to undertake to describe this disease as it effects the various large articulations; and yet it is greatly modified in its incidents, as it implicates different joints. We have so admirable an opportunity of illustrating these varying aspects, that I propose thus to spend the time allotted to our present interview.

This disease is necessarily confined to the diarthroidal, or movable articulations. These only have a proper synovial sac. You are already aware that, in its anatomical and physiological properties, the synovial sac is closely allied to the peritoneum, pleura, and pericardium, being a serous structure, quite abundantly vascu-

lar, highly active in its secretory function, the product being synovia. This product is different from ordinary serum, in containing more albumen, and in being more consistent and viscid, properties which admirably adapt it to the lubrication of the articular surfaces. The sac is variously disposed in different articulations, but, as a general fact, it lines the inner aspect of whatever tissues bound the cavity of the joint, viz: the ligaments, inter-articular fat, articular cartilages, bones and tendons. It is generally spoken of as being a complete shut sac, just as are the bursa mucosa, and the serous sacs above named; but, in so speaking, we are liable to convey a wrong idea. In the fetus, to be sure, the synovial membrane may be demonstrated as being present on all the tissues going to make the wall of the articular cavity. But in the adult, so far as the greater part of the surface of the articular cartilage is concerned, it is only constructively present. It may be demonstrated as present at the circumference of that structure, but toward the centre it seems to have disappeared. It has been suggested that this is caused by the mutual attrition to which, in the exercise of its function, this portion of the articulation is necessarily subjected.

The amount of synovial fluid contained in a healthy joint, at a given time, is slight; merely sufficient to keep its surfaces gliding smoothly upon each other. From very slight or obscure difficulty, however, the balance between secretion and absorption is disturbed occasionally, and we have present an increased amount of fluid, altered in its characters somewhat, becoming less glutinous, and consequently more like ordinary serum. This is *Hydrops Articuli.*

There are a number of considerations, bearing upon this subject, that go far toward explaining the great frequency of the disease. I mention a few. 1. The high organization of these structures, including their high grade of vascularity, and active secretory function. 2. The intimate connection of the synovial structures with others, the mechanical relations or states of which are subject to great and constant variations, as the bones, ligaments and tendons. 3. Their necessary connection with the extremities, and their being generally, in part at least, quite superficially situated, in consequence of which circumstances they are, to a great degree, affected by cold and atmospheric vicissitudes. 4. Their close connection with ligamentous structures, in consequence of which rheumatic, traumatic, or other inflammations of these structures are apt

to implicate them from mere contiguity. 5. A similar contiguous relation to articular cartilage, bone, and periosteum, tissues especially liable to inflammation.

PATHOLOGY.—A healthy synovial membrane, in appearance, resembles peritoneum, or any other serous membrane. In a state of health it is colorless, like the healthy conjunctiva. Becoming inflamed, it assumes a high degree of redness, just as does the inflamed mucus membrane of the eye. Very soon the contained synovia is increased in quantity, and vitiated in character. It loses its transparency, and assumes varying degrees of redness from that which is slight to that which is intense. At this stage the effusion of very red serum, in increased quantity, occurs. The disease persisting this becomes admixed with flakes of lymph, and at a still more advanced stage the contents of the sac frequently become distinctly purulent.

On yesterday I had an experience in private practice illustrative of this statement. Some weeks ago a boy of nine years, previously healthy, had an attack of acute ostitis, implicating nearly half of the upper portion of the tibia, excluding the epiphysis. Extensive acute necrosis, suppuration, implication of soft parts, and formation of sinuses, rapidly supervened. Some of these latter extended upwards on the outer aspect of the knee joint, to a point over the outer condyloid ridge of the femur. Others burrowed extensively toward the popliteal space. The synovial capsule of the articulation was distended with fluid, and even presented distinct signs of pointing on its inner aspect. The articular surfaces were apparently forced asunder; the ham strings were tense, and the limb was strongly inclined to assume such a degree of flexion, as to render a greater or less degree of dislocation imminent. Under the circumstances a free incision was made where the fluid was most superficial. This was followed by an abundant discharge of deeply red serum, in which floated many small, and some very large flakes of lymph. In the outset the discharge consisted mainly of this colored serum; next came the lymph, the relative proportion of which increased with the flow, and gradually changing its characters, so that that which escaped last was not to be distinguished from pus.

Sooner or later, suppuration persisting, the articular cartilage becomes softened, perhaps loosened, disintegrated by ulceration, or even separated in minute sequestra, by the same process. In ad-

dition to this, changes occur in the structure of the synovial sac itself. The most common of these is thickening from deposition of lymph. From what we know in reference to this thickening as it occurs in other serous sacs, as the pleura, we would be lead to expect that the deposit of lymph would occur in the inner aspect of the membrane, tending to produce coalescence of the opposed surfaces, and result in anchylosis. This is the fact, however, only as an exception. The deposit is usually on the exterior of the membrane, and may be so abundant as to increase its thickness many times.

SYMPTOMATOLOGY.—It is no part of my present intention to present more than the striking or chracteristic features of this disease. That we may properly appreciate these, it is of the first importance that we familiarize ourselves with its pathology, and the special anatomy of the articulations. There is, as you will already have inferred, increase of size—swelling. The presence of fluid in the sac, and thickening in the membrane, with infiltration of the superjacent tissues, is a sufficient explanation of it. There is alteration in the *shape* of the limb at the articulation. Swelling, in fact, implies an altered condition of the limb; but I have reference here to certain characteristic changes, modified by the circumstances of each articulation. To exemplify, take the knee joint. The synovial sac is covered over, and bounded in certain directions, by bone; in others, covered in strongly by tendons and ligaments. On each side of the ligamentum patella, and also of the tendon of the quadriceps extensor, the sac is only covered by skin, cellular tissue, &c. The sac being strongly distended with fluid, and yielding to this distending force, in these circumstances, will necessarily produce an elastic and fluctuating swelling on each side of these tendons. Now, when it is borne in mind that the sac is reflected over the anterior aspect of the articular surface of the femur, extending upwards a considerable but variable distance, beneath the tendon of the quadriceps extensor, it will be readily seen, that in a recent case of synovitis of this articulation, where the membrane, ligaments, &c., have undergone but little change, a certain well-defined and characteristic alteration of shape is inevitable. Carefully analyzed, it will be seen to consist of a tense swelling on each side of the ligamentum patella, one on each side of the tendon of the quadriceps, and one beneath that

muscle extending an inch or two upwards. The points between which fluctuation is present, become at once obvious.

A thorough knowledge of the special anatomy of each articulation, will enable you to see that each articulation, in the presence of an ordinary attack of synovitis, has necessary changes of shape, depending upon the physical disposition of the various structures going to constitute it. In the median line of the ankle joint, you have anteriorly, in close connection with the synovial sac, the tendons of the anterior tibial group of muscles; laterally, the maleoli and lateral ligaments, and posteriorly the tendo-achillis. Now, you see, in this physical arrangement of the parts about the articulation, abundant reason for our not having fluctuating swellings at these several points. In the absence of these strong and inelastic parts, and the presence of comparatively thin and elastic strata, we see sufficient cause for elastic and fluctuating swellings at intermediate points. In the elbow joint, the swelling occurs at the sides of the articulation, and beside and beneath the tendon of the triceps. In the wrist joint, the sac is so bound down by the numerous tendons, lodged in grooves, and the abundant ligamentous arrangement, that, in the presence of synovitis, it can scarcely be said to have a characteristic shape. The hip and shoulder joints are so deeply imbedded in capsular muscles, that the alterations of shape, although necessarily quite definite and considerable in character, are yet more or less difficult of recognition.

These remarks in regard to change of shape apply more particularly to those cases in which the membrane is not greatly altered in thickness, and in which there is but little alteration of the parts external to the sac. Alterations of shape, depending upon these exterior deposits, are, of course, very various, both as to kind and degree. They are more particularly characteristic of advanced stages or chronic conditions of the ordinary cases, and of a class of cases, as the gouty and rheumatic, which have their origin in these exterior tissues, and only implicate the synovial structure secondarily.

Now, all these alterations of shape, except in the hip joint, are exemplified, in a marked degree, by the cases before you. In all, except one, the alteration of shape is so characteristic as not to call for particular remarks.

You have in one of the cases, that of this man R., an alteration of shape of the knee joint, equally as great as in any of the others,

but it is not so characteristic. He has had inflammation of this joint for many years. Putting my fingers on opposite sides of the ligamatum patella, I find fluid there; but you notice it does not make a distinct, puffy elevation, in these situations. Furthermore, the impression made to the touch, is not that of fluid covered by a thin stratum of elastic tissues; but rather that of a collection deeply buried by a thick stratum of non-elastic tissue; and this is undoubtedly the fact. From frequent relapses of inflammation, the synovial membrane is no doubt greatly thickened, while external to it, in the ligaments, tendons, cellular and other tissues, there is effusion. Effusion of what? It is not serum. We have neither acute nor chronic edema, such as the mere effusion of serum into the cells of the cellular membrane would produce. It is effusion of lymph into the various tissues just named. This lymph has produced change in all the structures about the joint, and is of so permanent a character as to lead me to suppose that this man will never have a right knee, which, either as to shape or usefulness, will be like the left.

Another feature, well illustrated in the cases before us, is the various *modes of origin* of synovitis. In the greater part of these cases, the disease seems to have been the result of atmospheric vicissitudes or alternations of temperature. It may originate in general atmospheric vicissitudes, independently of rheumatism on the rheumatic diathesis, as a frequent, but perhaps exceptional occurrence. More frequently, when it thus originates, the inflammatory attack is primarily in the fibrous tissues, merely extending to the synovial structures incidentally. In all the cases before you, which seem to have thus originated, you observe that the effusion, and that which I have called the characteristic swelling, are of moderate size. When the disease is caused by a more direct and powerful exposure, in the absence of the rheumatic or gouty diathesis, it commences primarily in the synovial membrane, and is apt to present the characteristic symptoms in a marked degree. This is what we ordinarily imply by "synovitis" where the word is used without qualification. It frequently has a traumatic origin, as in two of the cases before you. This man, a fine specimen of good health, stepped from a car in motion, producing that peculiar and obscure kind of subcutaneous injury, which we call a "sprain," in the tissues about the inner aspect of the knee joint. The injured tissues inflaming, the inflammation gradually extended to the syno-

vial sac. In the other case, a man who has a slight syphilitic taint, inflicted a small incised wound in the skin, &c., about the head of the tibia, where the bone has but very slight covering of soft parts. As is apt to be the case with wounds in such situations, it became inflamed. This inflammation gradually extended to the synovial sac. At present you notice we have the characteristic appearance of the knee, with free purulent discharge from the wound. By pressing six inches above this cut, you see that I force this pus from that point. In the third of these cases, of traumatic origin, the cut was severe, entering the cavity of the articulation. Grave symptoms followed, as is usually the case when the disease is thus caused.

An exceedingly important aspect of this subject, the sequelae of synovitis, remains for consideration, and is well illustrated in several cases now before you, adduced with special reference to the illustrations of the ordinary and leading effects of the disease. In this case of old synovitis, already recurred to, we have an altered shape of the limb, with a great degree of weakness and stiffness. In this case, originating in contusion and strain of the tissues about the inner aspect of the knee joint, we have contraction of the muscles, a degree of gliding of the articular surfaces on each other, a partial dislocation, and the leg immovably flexed to an angle of about 70 degrees. This man's case presents the sequel in a case caused by an incised wound entering the cavity of the knee joint. There is nearly immovable anchylosis. Yet, I wish to impress it on your minds, that the mere fact of an incised wound entering the knee joint, is not necessarily followed by grave symptoms and anchylosis. Two years ago, a convict in this institution, in using an adz, made a wound two inches in length, which laid the knee joint open freely, the cavity of which was filled with blood. A thorough emptying of the joint, with a careful adjustment of the wound, secured union by the first intention, and a perfect limb. There is one sequel not exemplified in the cases before us, which I wish to mention, i. e., dislocation. I suppose that this is rarely, if ever, exemplified, as complete dislocation, except in the hip joint. It is a universally recognized fact, that, in morbus coxarius, the destruction of the acetabulum and head of the femur may be such as to allow dislocation of the femur from external causes so slight that the occurrence may be called spontaneous. That dislocation may be caused by synovitis, from the synovial sac becoming excessively

distended with fluid, with little or no destruction of the hard structures entering into the constitution of the joint, is equally a fact, though it is, perhaps, by no means generally recognized. Brodie gives the case of a boy who was attacked with well marked synovitis about the first of October, 1824. For several weeks he suffered severely with the ordinary symptoms, after which there was a general subsidence of the disease, without external discharge. Against the following March, he was able to get about with the assistance of crutches, but it was now discovered that the limb was too short. In the following November Brodie made a careful examination, and found the hip dislocated, upwards and outwards.

Brodie's next case was that of a girl who was seized with an attack of what was supposed at first to be rheumatic fever. In the course of two or three days this fever was excessive. She laid in a state of delirium for several days, during which time the hip trouble was measurably overlooked. After a rapid and severe siege, in which she came very near dying, the case took a turn, and she recovered. To the surprise of her friends, the hip was now found to be greatly distorted. Brodie examined her under these circumstances, and found the head of the bone on the dorsum of the illeum.

This eminent authority alludes to several other similar cases.

Since the commencement of the present course of lectures I was kept for a number of days, with my venerable friend, the well-known Dr. Boerstler of Lancaster, at Logan, Hocking county, as witness in a case of prosecution for alleged mal-practice. The circumstances in which the prosecution originated were as follows: A boy fell in a barn, coming in contact with a round pole which laid on the floor, and impinged on the outer aspect of the left thigh, opposite to the trochanter minor. Two competent surgeons, Drs. Huffman and Pullen, saw him a few hours after the accident, made an examination which, in most respects, was thorough and careful, and came to the conclusion that there was no dislocation but a severely contused condition of the parts about the joint. They directed appropriate treatment, and gave a careful prognosis, in which they expressed the apprehension that the case might be attended with some difficulty to the articulation. This examination did not include measurements, but only a comparison of the length of one side with the other. Grave symptoms, referable to the seat of injury, followed. Some days after the reception of the injury, Dr. Dalton, the senior of the firm, and an able surgeon,

saw the case, and made the ordinary measurements with extraordinary care. He found no difference between the two sides. After a few months of appropriate treatment, the active symptoms subsided, and the attendance of the surgeons was discontinued. Not long afterwards, Dr. Davis, an intelligent physician, saw the boy, made an examination that convinced him that the limb was dislocated, and defended that opinion before the court. At the time of the trial the limb was shortened to the extent of two and a half inches.

It was maintained by the witnesses for the plaintiff, that here was dislocation, and that, inasmuch as there had been no external discharge, no evidence of the destruction of the head of the femur and acetabulum, the dislocation must have been primary, and consequently its being overlooked was the result of the want of ordinary skill and diligence. It was distinctly assumed that there having been no suppuration or external discharge, and consequently no proof of a destructive process implicating the joint, there was no sufficient cause for a secondary dislocation, and that it could not, even as a possibility, occur.

The witnesses sustaining the defence claimed that the examinations made by the attending surgeons, and especially the measurements made by Dr. Dalton, amounted to positive demonstration, as showing the absence, at that time, of the deformity and shortening present at the time of trial, and amounted to most satisfactory proof that a dislocation, of whatever kind, or to whatever degree, could not have been present at the time the examinations were made. The case turned, to a very great degree, upon the question of the possibility of the occurrence of secondary dislocation, without suppuration and other external indications of disorganization.

The witnesses were kept on the ground two or three days before the case was reached. Two of them being thus detained at a public house, noticed that the landlord, a very intelligent gentleman, limped, and had a deformity very much like that of the boy around whose case so much interest centered. They requested and obtained permission to make an examination, and found the most satisfactory proofs of a dislocation, upwards and backwards, of the femur. The following history was obtained:

Ten years previously, after a severe day's exertion, the gentleman had what was supposed to be rheumatism in the left hip joint. This subsided at the end of three or four days, after which, for a year, he was quite well. At the end of this time, he had difficulty

in the same articulation. This was severe enough to confine him to his bed for four weeks. At the end of this time he commenced to move about on crutches, but was still conscious of great weakness and tenderness about the joint. After a few weeks more he became distinctly conscious of a giving way about the joint, after which the leg was too short. Mark the point. This gentleman was the patient of the two worthy gentlemen who took the lead in *the advocacy of the impossibility of dislocation without external discharge.* The verdict was for the defence.

Flexion, with complete or partial anchylosis, as a sequel, deserves at least a mention. In two of the cases before you it is exemplified. In one of these cases we have rigid anchylosis, in the other it is present to a moderate degree.

It has been my object, on this occasion, to improve the cases before you in the way of exemplifying the characteristic alterations of shape, the various modes of origin, and the sequela of synovitis. I have discussed its pathology more particularly with reference to making these things plain. It is no part of my intention to enter into the details of treatment, and yet I wish to say a little in reference to the pinciples involved in that aspect of the subject. And, in the outset, there is a marked difference as to what you may expect, either as the result of treatment, or from the unaided efforts of nature, in an acute or recent case, as compared with a chronic or old one. The principle involved in this difference, has already been discussed in another connection. I operated on a case of hydrocele before you a few days since. The operation consisted in drawing a large quantity of straw-colored serum from the tunica vaginalis, throwing in a quantity of tincture of iodine, and allowing it to escape. Three days after the operation, the tunica vaginalis contained as much serum as ever. Ten days later this was absorbed, and the man was well. In this case, by our operation, we got rid of a quantity of serum, effused as the result of a passive process, and by applying an irritant to the surface of the sack aroused a high grade of action, which resulted in the effusion of a quantity of serum, the result of this *active* process. Now we gained this: serum, effused in this passive and chronic way, is but very slightly amenable to absorption. That effused actively, is amenable to absorption in a high degree. Now, apply this pathological principle to the case in hand. If a serous collection in a joint, however abundant, is recent, and the result of ac-

tive disease, you may promise yourselves an easy task in getting rid of it. If it is abundant, or even moderate, has been present a long time, and there is an absence of the ordinary indications of activity in the state of the parts, it is by no means safe to calculate on getting rid of it, without the lapse of a good deal of time. The same principle is illustrated in the facility with which we get rid of effusions in acute peritonitis or pleuritis, and the difficulty with which we effect the same in ascites or hydrothorax.

Again: A case of synovitis having become thoroughly chronic, what is the prospect of complete success in the accomplishment of a cure? To apprise you of the difficulties attending this stage of these cases it is only necessary to remind you of the pathological anatomy of the parts as I have just given it. The main difficulty is not now in the fact that fluid is present, and that this collection has resulted from a passive effusion; or even that it is a purulent fluid, which does not readily admit of absorption. The chief obstacle to a cure is now found in the circumstance that the sac is greatly distended and thickened; that the surrounding cellular tissue and ligaments have undergone alteration from deposition and organization of lymph; and that all these parts are liable to be elongated, or relaxed and enfeebled. A complete recovery, accordingly, can only be expected after the lapse of a good deal of time. In this pathological condition, furthermore, you will at once recognize the demand for the exercise of pressure by the use of the bandage or otherwise; the internal and local use of iodine and mercury; and the external use of counter-irritation, either in the form of vesication or pustulation.

I would like to present the details of treatment appropriate to the various stages and varieties of the disease, but the limits of the present interview oblige me to defer this part of the subject to some other occasion.

Diphtherite. By A. S. Clark.

This is a disease of late origin, or, at least, we do not have any account of it as a distinct disease prior to 1771. Dr. Bard, of New York, writing in that year, describes a false membrane similar to that which is found in croup. In his description he discards the notion of ulceration or gangrene, which was spoken of by previous

authors on the subject of sore throat, believing these ulcerations, when they occur, to be complications of other diseases, or that they were mistaken, it being nothing but white exudation of coagulable lymph. We hear nothing more said about it until about the year 1826, when Bretonneau wrote a treatise on Diphtherite, in which he says, that it is not attended with ulceration or gangrene, but is closely identified, in every respect, with croup. Since his time the disease has been described by many French writers. This disease appeared in France and prevailed as an epidemic in 1855–6–7, during which a great number died. The recoveries were attended with extreme debility. I now come to the epidemic which has been described in this country during the last two years. It first attracted general attention in England, of late years, in the autumn of 1857 and summer of 1858, during which time it visited many towns, and since then has prevailed in very many parts.

In this country there has been a very general prevalence of this disease during the last two years, prevailing as an epidemic, and, in certain localities, it has been very fatal.

It is peculiar in its mode of attack, differing in almost every case, but having in the main, well-marked characters that will distinguish it from other diseases. Commencing usually with uneasiness in the fauces, and pain on swallowing, gastric irritation, which frequently produces vomiting, disturbance of the hepatic functions, and a disturbed circulation. Sometimes the first symptoms are hoarseness with altered tone of voice, not much swelling, but immediately an effusion of plastic lymph upon the mucus coat of the larynx and fauces, which becomes organized, spreading to the air passages, developing low fever, with a weak and quick pulse, hurried breathing, ending in death by asphyxia, the same as in pseudo membranous croup. The majority of cases have a more insidious attack with a more favorable termination. The first that attracts the patient's notice is pain on deglutition. On examining the throat you find slight congestion with considerable redness; here it may terminate by acrid secretions relieving the congestion, but generally in a very short time one or both tonsils become very much inflamed, sometimes with swelling of the carotid, cervical, and submaxillary glands. Swallowing now becomes very painful. The tonsils and fauces have the appearance of indentation, looking like pits made by wheat kernels, showing that the mucus coat has become thickened in patches which, with the effused lymph, gives it the appearance of ragged ulcers or gangrenous sloughs. This exu-

dation at first is of tough, elastic, white or whitish yellow shreds of membrane, but as the disease progresses or becomes more malignant, it changes its color and becomes darker, with effusion of sanguino-purulent matter, and fetid breath, with the tonsils and fauces of a dark ash hue. This exudation, which is muco-sanguino-fibrinous, spreads into the air passages of the head giving a very offensive odor and increasing the danger of the patient, making convalescence very slow.

Occasionally we have fever from the first symptoms of the disease, but not usually until the local inflammation of the throat has developed itself.

The fever is of a low and malignant form—it may be sthenic in some, and is, at the commencement, but does not remain so long, soon assumes the asthenic or typhoid character.

The blood is changed in relation to the normal proportion of its constituents, having less fibrin and a tendency to disorganization. Hence the frequent occurrence of epistaxis and sanguineous effusion.

The nervous system is very deeply implicated, with general prostration, of the whole system, which is the greatest danger of this disease. The stomach is often disturbed in the commencement, inducing emesis. Constipation of the bowels generally occurs, except when they are disturbed by the acrid secretions of the throat, which produce diarrhea.

During the inflammatory process of the throat, there is hypersecretion of the mucus coat, commingling with the lymph effused thereby relieving the loaded vessels and preventing ulceration.

The secretions are acrid in their character, producing excoriations upon any surface that they come in contact with.

The urine is acid, scanty, and in latter stages frequently entirely suppressed, followed by anasarca, and requires to be strictly attended to throughout the whole treatment of this disease.

This is no doubt a blood disease, which develops its virulent poison upon the mucus coat of the throat and air passages, producing in those predisposed a pseudo-membranous exudation, in others inflammatory swellings of the tonsils and glands about the neck, depressing the vital system as well as the nervous. The virulence of the poison is such that it has a tendency to lessen the plasticity of the blood, (by which its nutrition is destroyed) which is seen by not coagulating, becoming less in fibrin and deficient in

red corpuscles, producing malignant asthenic inflammation, depressing the whole system, causing the muscles to lose their tonicity, becoming flabby and less cohesive, which may be accounted for in part by the poison inducing the disease, and in part by difficult respiration, thereby not relieving the blood of the waste material of the organized system, by arterialization which remains as a poison. The febrile disturbance is generally slight. Pain is not in proportion to other symptoms; sometimes quite absent, the voice dull and nasal, moderate thirst and loss of appetite. It does not specially attack the puny and ill-fed, but is generally confined to those under 18 or 20 years of age.

I am indebted to Dr. W. F. Clark for some valuable information on diphtherite. He and his partner, Dr. Buchanan, have treated near five hundred cases (some of which I saw) in an epidemic of this disease, occurring at Lowell, Washington co., Ohio, commencing in June and ending in December of the year 1859, in which they lost about 40 patients. About one-third of the five hundred cases were of a very mild character. He states that they lost every case where the false membrane became perfectly organized, dying in from one to two days. The convalescence of those that recovered was usually from seven to twenty-one days, unless a relapse occurred, which was very common, making convalescence in some three months.

The appearance of the tonsils, fauces, &c., accords with the description given. Bowels constipated, nervous system prostrated, toward the close of the disease, secretions generally acid. Epistaxis with the blood not coagulable, but remaining watery, and in fact the solids and fluids in a septic condition, in all the malignant cases. The sweat and urine were decidedly acid, and in fatal cases there was frequently an entire suppression of the urine.

In those dying by suffocation from the false membrane, there was little or no swelling, not much fever, it being sympathetic or secondary. He (Dr. Clark) thinks that it is contagious, especially during an epidemic. One thing I observed in the cases that I saw of that epidemic, and that was in nearly all cases of a malignant kind which lingered or not, there was ulceration and gangrene with sloughing of the fauces and other parts of the throat, and many patients were mortified before they breathed their last. Any external wound or abrasion of any surface was immediately followed by gangrene.

Treatment will depend upon our knowledge of the pathology of the disease. To counteract and eliminate the poison of the blood, sustain the patient, excite secretion, and equalize the circulation, are the main indications.

In mild cases little general treatment is required. The patient may take a dose of sulphate of magnesia, or some other saline cathartic, and use alum gargle. In somewhat severer cases repeat the cathartic with ipecac, and use a mixture of chlorate of potash and lemon syrup, and in addition to alum use diluted Mur. Tr. Ferri as a gargle. It has been recommended to use glycerine in false membrane as a solvent, which is very good; but I think that carb. potash is better. You are debarred from blood letting and tracheotomy on account of the nature of the disease producing aenemia in one case, and gangrene in the other.

When you have high grade of inflammation, a full, strong pulse, with high fever, some would recommend bleeding; but it is found that venesection does not exercise the same controlling influence over inflammations of the mucus coat as over other organs, and especially in this disease; it does not relieve the tendency to plastic effusions; and again, this disease early assumes the malignant type, by a depraved state of the blood, which is shown by the dark hue and fetid odor of the exudation; therefore, it is better not to bleed or deplete too much.

At first you may give an active cathartic, and that of a character that will stimulate the secretions, and at the same time not depress the vital powers,—calomel and ipecac, combined with carb. ammonia and soda, followed, if necessary, with Rochelle salts, or any of the saline cathartics, with the free use of chlorate of potash, sesqui chloride of iron in tr., diluted with nitrous ether. The preparation of potash that I prefer is:

℞ Chlorate of Potash ℥j.
Syrup Lemons.
Aqua *aa* ℥iv.
Sulp. Morphia gr. ij m.
Dose, table spoonful every 4 or 5 hours.

And use a gargle of the Mur. Tr. Ferri, diluted with nitrous ether; also given in full doses, three or four times a day, as a tonic and diuretic, together with soda and potash, which have a tendency to dissolve the coagulated lymph, and keep the throat clean. It will be necessary to use expectorants, ipecac and opium, remember-

ing to sustain the patient by iron spoken of, quinine and ammonia, with proper diet, without regard to the inflammation—or, in other words, use constitutional treatment. You must counteract the poison in the blood by the chlorate of potash, and eliminate from the system, through the kidneys and pores of the skin, by the above diuretics and diaphoretics. I do not think that the free use of calomel, by small doses, is beneficial; but the saline cathartics, soda, potash, and chlorates, should be freely used.

For local treatment, use means to divert the blood from the inflamed part, and to equalize circulation by sinapisms to the legs, feet, and hands or arms, external stimulants to the neck, and, as the disease advances, fomentations of hops, poultices, &c. Internally, to the throat, apply the tr. of iron, nit. silver, sulphate copper, alum and oak bark, or tannin. In advanced stages apply the nitrate of silver or sulphate of copper as a caustic, and between the caustic applications use glycerine, for its lubricating as well as for its solvent powers.

The lancet, leeches and blisters, in malignant cases, are not to be thought of, but in their stead use Peruvian bark, or quinine, wine-whey, carbonate of ammonia and animal broths, with fresh air, good nursing, and you may expect that nine out of ten cases will recover.

PART SECOND.

AMERICAN AND FOREIGN INTELLIGENCE.

Mortality in Trades and Professions. Shocking Picture of the White Slaves in England.

In the current number of the *Edinburgh Review* we find a very interesting article on the effect of the various industrial professions in England upon the health and longevity of those engaged in them, which gives at the same time a picture of the condition of hundreds of thousands of the working classes of England which, if they were only negroes and some thousands of miles away, would excite the special horror of all the dutchesses and antiquated lords in the realm. The article informs us that the grinders of Sheffield cutlery suffer so much injury from the constant inhalation of the par-

ticles of steel and of silicious grit that the average duration of life among them is twenty-nine years! Less than half the scripture period allotted to the duration of human life. The amount of this dust given off in the process of grinding cutlery may be imagined, when it is stated that a dozen razors, weighing two pounds four ounces, lose, in grinding, five ounces, and the stone itself, seven inches in diameter, is reduced to six.

In the rough nomenclature of the trade, the disease which thus early destroys the fashioner of forks and needles is termed the *grinder's rot.* The lung, when examined after death, looks as though it had been dipped in ink, and the texture, instead of exhibiting the usual spongy character of that organ when in health, cuts like a piece of india-rubber. The color and the solidification of the dry grinder's lung is owing to the chronic inflammation to which it has been subjected by the presence, from an early age, of irritating particles of steel and stone within its finest air-passages. But why dry grain at all, the reader will involuntarily exclaim, if the wages of the occupation are death? The grinder replies that there are certain operations which cannot be done on the wet stone; giving the rounded back to razors, technically called "humping," and the rounded side to scissors are quoted as examples. Then again, we may ask, where is the necessity for this rounded form—would the shaver on a cold morning care a jot whether his razor had a round or a square back? Would the lady, as she manipulated her lace-work with her scissors hesitate to accept a three-sided scissor's leg in place of a half round one, if she knew that the difference involved the life of a fellow-creature? Yet such trifling differences as these, between round and flat, stand in the way of the health or misery of an entire class of workers.

But the most revolting picture of the wholesale physical deterioration of masses of men, in which a life of unnatural toil, that twists the sinews until the individual is distorted out of all semblance of humanity, is terminated by a premature death, is that given of the miners—a proportion of which we here reproduce:

THE MINERS OF ENGLAND.—There are at present upwards of 300,000 human beings acting the part of gnomes for the good of the community at large, entering day by day into the bowels of the earth, and emerging in the evening. Of human life they see as little as the train of black ants we watch emerging from their holes in the ground. Yet the miner is the industrial Atlas of England. Without the coal and iron, the copper and the tin, they toilfully evoke from vast depths, England would be but a third rate power.

Let us take the collier, for example. In many pits in the west of England the seams of coal are not more than twenty or twenty-five inches in thickness; and inasmuch as the object of the worker is to remove the coal with as little as possible of the surrounding soil, he often drives his working to a considerable distance through an aperature not more than, and often not so much as, two feet high.

If our adult male reader will condescend to squat himself on the floor, *a la Turque*, say, under the dining table, for instance, and then picture to himself the inconvenience of picking with an axe the under side of the table for twelve hours, he will obtain some slight idea of the muscular knot in to which the poor collier has to tie himself for the whole term of his working life, having to use violent exercise throughout. Can it be wondered at, that under such circumstances, the Apollo-like form of man becomes permanently twisted and bent, like the gnarled root of an oak that has been doubled up in the fissure of some rock? If we look at a collier we see instantly that his back is curved, his legs bowed, and the extensor muscles of his calves withered through long disease. He has knotted himself so long that the erect position of the race becomes a punishment to him. It is credibly related that a number of colliers having been sentenced to imprisonment in Wakefield jail, with hard labor, the only complaint they made was, that they were obliged, whilst at work, to keep the ordinary posture of rational creatures. But confined space is only one of the many evil conditions under which they labor. In the majority of cases the collier works in foul air; for, notwithstanding all the official inspection, the ventilation of mines is still execrable. The fire-damp either blasts him into a cinder, or the choke-damp noiselessly blots out his life. However good, moreover, the general system of ventilation in a mine, unforeseen accidents will happen at any moment. The pick of the collier strikes into the gallery of an old pit, where carbonic acid gas has been gathering perhaps for a century; and the poisoned air rushes in and does its work in an instant; or a sudden invasion of carburetted hydrogen disengaged by a fall of a mass of coal, meets the miner, who is working, perhaps, imprudently, with a naked candle, and an explosion follows, which crowds the pit mouth with a wailing multitude of newly made widows and orphans.

Upwards of 1,000 lives are annually lost, principally through these causes, and not less than 10,000 accidents in the same period testify to the dangerous nature of the miner's occupation, notwithstanding the strict government inspection. It is humiliating to know that England is yet far behind continental nations in her methods of preventing these dreadful catastrophies. Mr. Mackworth, in his lecture at the Society of Arts stated that the mortality from accidents in the coal mines was—

	KILLED.	PERSONS.
Prussia	1.89	per 1,000 per annum.
Belgium	2.8	" 1,000 "
England	4.5	" 1,000 "
Staffordshire	7.3	" 1,000 "

This comparison, so humiliating to England, cannot be explained by the superior adventure of our countrymen, inasmuch as the production of coal in Belgium is half as much again per acre of the coal-field as in England.

In addition to his cramped condition, whilst at work, his supply

of oxygen is small; for in all probability the air supplied to him has to circulate many miles through the mine, and to pass over the excrementitious deposits of man and horse, and the decaying wood work of the mine, ere it finally reaches him, in enfeebled streams, in his solitary working dell. Long deprivation of solar light, again, tends to impoverish his blood, to blanch him, in short, like vegetable products similarly deprived of the light of the day. It is through the lungs, however, that the health of the miner is principally attacked. The air of a coal mine—such as it is—holds a vast amount of coal dust in mechanical suspension, and this, as a matter of course, is constantly passing into the lungs of the miner. The proof of this is the so-called "black spit" of the collier, which, on being subjected to the microscope, is found to consist of mucus, filled with finely divided particles of coal. The permanent inhalation of such an atmosphere results in what is termed the "black lung." The breathing apparatus of the collier becomes clogged, in short, with coal dust, and after death it has the appearance of being dipped in ink. A writer, who has lately investigated this singular pathological condition, thus gives his experience of two post-mortem examinations:

"In each case the black treacly fluid obtained by thus cutting the various portions of the lung (more especially the posterior and inferior portion of the lower lobes), and by slitting up the bronchial tubes, was evaporated to dryness, and the residuum being broken up and subjected to a red heat in a porcelain tube retort, behaved precisely as coal under similar circumstances, *i. e.* it evolved a smoke-like gaseous product, which, on being slightly condensed, deposited hydrosulphate of ammonium and coal tar, and being thus purified, burnt in all respects like the well-known compounds of the two carbides of hydrogen (common gas)."

When mines are driven to any considerable depth the temperature proportionably increases, and 80 degrees of Fahrenheit is a common temperature at the end of workings all the year round. After exposure to this oppressive atmosphere during the whole day, the collier perhaps suddenly emerges into the open air at the pit's mouth, vitally depressed by his prolonged exertion, when the bitter wind is shaving the surface of the earth at a temperature much below the freezing point.

The metalliferous mines, such as the tin and copper mines of Cornwall, and lead mines of Derbyshire, are in pretty much the same pestiferous condition, but in one particular they are still more destructive of life than coal mines. In the latter the tired workman is lifted from the depths of the mines to the surface by a rope. The Cornwall miner, on the other hand, has to carry his exhausted body in some cases thousands of feet up a series of steep ladders to the mouth of the mine. It has been estimated that many miners have thus to make an exertion every night equal to climbing to the summit of Cader Idris, and this is an up-cast shaft used for the extraction of the foul air!—*N. Y. Mentor.*

A Substitute for the Trephine, with Remarks on the Treatment of Injuries of the Skull. By MIDDLETON GOLDSMITH, M. D, Professor of Surgery in the Kentucky School of Medicine, Louisville, Ky.

Every surgeon who has used the trephine much in the treatment of injuries of the skull, has often regretted the loss of so much sound bone as the use of that instrument involves in order to apply the elevator or to take away pieces of broken and detached bone. It is true, that by the use of Hey's saw, the object may be obtained in many instances without the sacrifice of much unbroken bone. But it is within the experience of every surgeon that he has often been obliged to sacrifice a quantity of sound bone greater than that for the removal or elevation of which the operation was undertaken.

In order to avoid this serious objection to the trephine, the writer has for the last ten years been in the habit of using a *chisel in place of the former instrument.* In employing the chisel the great object is the conservation of bone. The trephine must unavoidably take more than half its button from the unbroken calvarium. With a saw the surgeon must of necessity make his incision in a line that is nearly straight, and he cannot limit it in length. In order to prepare the calvarium for the application of any kind of saw, the periosteum has to be detached from a space much larger than that corresponding with the line or circle of the incision. Now it often happens that, when room has been acquired for grasping the fragment with forceps, the fragment cannot be extracted because it is held by a single or by several angles, or by a narrow projecting edge of the external table. With a chisel, impelled by the hand or a small hammer, just so much bone may be removed as is necessary for the insertion of the elevator, or for the extraction of the detached pieces, and no more. The dura mater is not endangered in the operation, for the depressed bone protects it. It is never necessary to cut any part of the internal table, for if the opening in the external table is as large as the fracture of the internal table, then the external opening is large enough to allow the required extraction.

If the reader will fracture, with the face of a hammer, the skull of any of the larger inferior animals, and with a half-inch carpenter's chisel undertake to make room for elevating bone and removing fragments, the many advantages of the instrument will at once be apparent to him, and that, too, in a manner more forcible and satisfactory than any account which the writer can give. The operation does not admit of a formal description, for the variations in size, shape, degree of depression, and difference between the fracture of the internal and that of the external table, are so great that no description can be given except in a given case, and then the formula would be appropriate to that case alone.

The writer has not used the trephine in fractures of the calvarium for the last ten years. He has always been able to effect the

objects of the operation with the chisel as the sole cutting instrument applied to the bone. He has had occasion to use it in many instances, in private and hospital practice, and so manifest are the advantages derived from it as compared with the trephine, that he believes it has very generally been adopted by his pupils and professional acquaintances, and he feels firmly convinced that any surgeon who will once try it will afterwards adopt it.

The mere loss of bone, every surgeon will admit, is, of itself, a very serious evil when recovery from the immediate effects of the operation has occurred. But this is not all. The trephine cannot be applied to the complete division of the bone without injury to the dura mater, and that, too, to an extent not commonly recognized by operators. The membrane is scratched more or less by the teeth of the saw, and although in skillful hands the abrasion is not deep, nevertheless the injury done participates with other things in exciting that which is always to be dreaded—inflammation of the meninges.

The edge of the button hole often necroses, ("It is rare that exfoliation does not take place from the edges of the cut bone, or from the circle made by the trephine." Guthrie, *On Injuries of the Head*, p. 96, 97,) and thus the presence of the sequestrum keeps up constant irritation and discharge, and maintains that open state of the parts which renders them liable to inflammation. The division of the bone by a sharp cutting instrument, like the chisel, inflicts no other injury on the bone. Necrosis is not so apt to follow, the parts heal quickly, and thus the important and sensitive organs beneath are not so long exposed to the contact and the influence of the air.

In the next place, the writer has uniformly practiced the immediate and perfect closure of the wound in the scalp.

It is hardly necessary at the present day to enter into any detailed array of cases to show that a greater degree of mortality attends upon compound fracture, that is, fracture of the skull with wound of the scalp, than upon fracture without such wound. The belief that such is the case finds expression in the practical precepts of almost every surgical authority, if, indeed, it is not stated in round terms. GUTHRIE says:

A simple fissure or fracture of the skull is of no more importance than a fracture of any other bone in the body, unless it implicates the brain, and should be managed according to the same principles of surgery. * * * Mr. Abernethy was the first to declare in this country, that a simple fracture of the skull should always be left to the efforts of nature, unless urgent symptoms were present requiring relief. Sir A. Cooper was the first to insist, in modern times, that if the scalp or integuments of the head were undivided down to the bone, they should not be interfered with; and that although a fracture might be suspected, its existence should not be ascertained, unless symptoms rendered it necessary.

Velpeau (Velpeau, A. M. L., *De l'Operation du Trepan dans les Plaies de Tete.* Paris, 1834,) has published on this point some

observations made by F. Martel, of Lyons, in 1601, which deserve to be recorded, as they show that the light of truth did break in on our predecessors when it might not have been expected. Martel says: "A wound in the integuments ought not to be made to expose the bone on the suspicion of its being fractured; for I say, that a simple fracture of the head may be cured without its being seen, and the less wounds of the head are exposed to the air the better. I repeat, that a simple fissure, without a wound in the integuments, gets well by the aid of nature alone, and that if the bone does not press on the dura mater there is no use in exposing it; and when the bone is deprived of its integuments the sooner it is covered over the better." He recommends for dressing only water or oil.

If the integuments or scalp should be divided, and bone fissured, the same principle should be carried out, by endeavoring to procure the union of the divided parts, as was done during the war in all such injuries from sabre cuts as did not penetrate the skull—a practice that was found to be eminently successful even when union did not take place.—*Guthrie on Injuries of the Head*, p. 52, 58.

Sir Astley Cooper has stated, in his Lectures on Surgery, that there is a great difference as to the danger of inflammation and suppuration of the membranes of the brain between those cases in which the fracture and depression is complicated with a wound of the scalp, and those in which the soft parts are uninjured; such mischief being much more liable to occur in cases of the first kind than in those of the second; and on these grounds he recommends that, where the complication exists, *we should not hesitate to apply the trephine;* and on the other hand that, where it does not exist, we should carefully abstain from adding to the injury, by dividing the scalp and exposing the fracture. * *—*Medico-Chirurgical Review*, p. 115.

The conversion of a simple fracture into a compound one, and the removal of any portion of the cranium, are serious proceedings. * * *—*Ibid*, p. 348.

Miller (*Practice of Surgery*, p. 61,) holds to the propriety of non-interference in fracture without symptoms of compression.

South, Sir A. Cooper, Abernethy, and Drasi, (Chelius, *System of Surgery*, p. 432, note,) clearly avow the opinion that in fracture without scalp-wound no incision should be practiced, unless the symptoms of compression are urgent. This opinion is founded on the idea that the open state of the fracture, *i. e.*, the exposure of the broken bone and the dura mater to the air, renders them liable to inflammation. Indeed, the practical precept which they inculcate is nothing more than the vicarious expression, as it were, of this truth. It cannot be construed in any other way. It cannot be held that the incision of the scalp, *per se*, contributes to the causation of inflammation; this is controverted by every days' experience. Nor, can it be held that the removal or elevation of the bone inflicts any serious injury; it, rather, by the removal of pres-

sure, abstracts one of the causes of inflammation. The man from whose skull a piece of depressed bone has been removed by an operation, is *minus* one cause of inflammation, the depressed bone —and *plus* one, the scalp wound. If the latter were not the more efficient cause, the practical precept would be absurd.

No one has more clearly pointed out and proven the agency of the air in the production of inflammation than Mr. Paget, in his lectures on Surgical Pathology. It is the vital principle of subcutaneous surgery; most modern surgeons recognize it in their directions for the closure of ordinary wounds; and it seems strange that the practical precept growing out of it has not as yet been so clearly pronounced in the injuries of the head—a class of injuries in which this agent produces more disastrous results than it does in any other.

It is true, we are told to close the wound in the scalp with adhesive plaster; but every surgeon who has had occasion to trephine much, knows that the wounded structures cannot be brought together and kept in apposition by adhesive plaster, above all when the crucial incision has been practiced. A well-founded prejudice exists against the ordinary thread suture. It is seldom used. Hence, in the great majority of cases, if not, indeed, in all, the wound is not closed in the sense in which wounds are closed in order to produce immediate union of the parts.

Close approximation, if not always immediate union, can be procured by the use of metallic sutures. The writer used formerly suture pins, but has latterly employed the silver or iron wire. The sutures are to be placed so near each other as to secure as close contact between the parts as is secured in the operation for vesico-vaginal fistula. It may not always be best, as in those cases where blood continues to ooze from the divided bone and soft parts, to include the whole extent of the wound, but the major part of it should always be closed at once.

The shape of the wound materially influences the ease of coaptation. The crucial wound is the most difficult of all to close; for, besides its shape, the angles of the flaps overhang the breach in the skull, and for lack of support on their inner surface fall asunder. Hence, it is always better to make the external wound of such a shape that the perfect closure of it will be as easy as possible. The surgeon often finds the scalp injured in such a manner that all he can do is to extend the wound; but, then, the incision should have no angles over the breach of the bone. If a cut is required at an angle to the line of the wound, the angle should commence at the extremity, not the middle of that line. A single flap will thus almost always suffice.

When there is no scalp wound, or when the latter is small, then the surgeon should make a semi-circular flap large enough to embrace the breach of bone, and to extend from one-half to three-quarters of an inch beyond it. The edge of the incision will thus have a substantial support, and will not come apart by falling into the depression of the breach. The writer is disposed to place

great stress upon this point in the management of these cases. It is true that he has not yet seen that number of cases which, if related, would be enough to establish a general rule to the satisfaction of others; but still he has seen enough to satisfy him that the safety of the patient is vested more in the exclusion of the atmosphere from contact with the dura mater than in any other thing and in any other circumstance in the whole operation of trephining. In confirmation of this, he would state that since he adopted this practice he has never lost a patient whom he has trephined before inflammation occurred, and in whom the brain or dura mater was not torn. He cannot now recall all of the cases in which he has had occasion to operate in the last ten years of his practice; but he feels confident that in that period he has operated at least twenty times in the kind of cases specified. He does not mean to be understood as stating that perfect closure of the wound gives immunity from inflammation, but that, so far, he has lost by inflammation no patient thus treated, and that his experience most decidedly establishes in his mind the importance of the measure.

The writer's colleague, Dr. Hardin, Professor of Obstetrics in the Kentucky School of Medicine, has operated in some seven or eight cases, including those which he reported in the *Western Journal of Medicine* for 1851 or 1852. In all of the cases he says that, according to Velpeau's direction, he so managed the incision into the scalp that the line of the scalp wound should not overlie that of the fracture, and he did this chiefly by adopting the semi-circular incision. He also practiced the immediate closure of the wound in all of these cases, and he reports that he has not lost a single case. Something of this success is doubtless attributable, in his practice as in that of the writer, to the fact that most of the cases were in rural districts. But this also is noticeable, that the two parties, acting without concert, and in distant parts of the Union when most of their operations were performed, should have been led, the one by one train of reasoning, and the other by another, to a practice substantially alike in purpose and closely accordant in results. These results the writer fears are too good to last; for it were absurd to hope that any modification of the operation, or subsequent treatment, can strip the injury entirely of its danger.

Another and important point to be attended to is the preservation of the pericranium, and this to the end that new bone may be produced. Not only is the pericranium to be preserved, but it should be preserved in connection with the scalp as far as possible. If the wound in the scalp reaches to the pericranium, the line of that wound should be the place where the detachment should be begun, either for the application of the chisel or for the removal of loose pieces. The pieces should be pressed upon and otherwise examined, in order to determine the necessity of removal, and if they are loose and require removal, then the pericranium should be dissected carefully from them—not scraped off—*and raised with the scalp.* This advice is based upon the fact that in the adult the pericranium

participates more largely in the production of bone than the dura mater. The latter, as shown in Rodier's recent experiments, takes but little part in the regeneration of bone, and, on theoretical grounds, if we are to look hopefully for the restoration of lost bone, we are to look for it through the agency of the pericranium chiefly. That large pieces of the calvarium may be produced, is shown by the occasional results of sabre slices of different portions of the vertex. Fractures and depressed pieces of bone might much oftener be saved were it not the fact that the external table in the fragment is often detached more or less from the internal table. The inner table thus separated from the outer, and detached also from the dura mater, as it almost always is, by the injuring force—or its connection with the dura mater being feeble at best, and affording little circulation—will probably necrose if allowed to remain. But the removal of the inner table of course involves the removal of the outer, so that fragments of the latter, which might be saved but for this circumstance, have to be sacrificed. These considerations have to do with the question of removal or elevation.

In the young subject, in which the dura mater is proverbial for the strength of its attachment to the inner table, and for the freedom of its vascular connexion therewith, the inner table is not detached in fracture of the calvarium. Hence, in young subjects we almost universally elevate. Elevation does not require, nor do we practice, the removal of the pericranium, or even the scalp over the whole of the fractured portion; and, hence, among other things, the comparative innocuousness of such injuries in the young.

These several facts, as well as the observation of the results of injuries requiring operations, have led the writer by degrees to remove more of the fractured pieces of the inner table in the adult, until now he makes it his general rule to extract from under the shelving edge of the external table all such pieces of the inner as can be detached with the forceps, and to restrict the act of elevation to fragments of the external table alone.

Since the publication of Rodier's experiments in this country, in the early part of 1859, the writer has had occasion to trephine in three instances. In the first, occurring in March, 1859, some fragments of the temporal and parietal bones, just above and behind the ear, were removed from the head of a negro boy. The breach was about the size of a silver dollar. The periosteum of the fragments was carefully raised in the flaps. The cutting part of the operation on the bone was made with the chisel; the irregularly shaped flaps were closed throughout with silver sutures thickly inserted, and the line of the scalp wound was covered with scraped lint and a moderate compress. The flaps adhered throughout their whole extent by the "first intention." The scraped lint was not detached for ten days. There was not a single symptom of injury during the whole time the boy was under observation—and on examining him to-day, February 4th, 1860, the whole breach of the bone has been filled with new bone.

In the second case, that of a negro man, from whom large portions of the temporal and parietal bones were removed in October last, in all leaving a breach as large as the palm of the hand, a considerable portion of bone has been re-produced. The writer has not seen the patient, but this is the report which has been made to him. In this case it was not possible to close the wound completely, on account of the blood which continued to ooze from it; and, to provide for this, a small opening was left at the inferior portion of the wounded scalp, but below the line of fracture.

The third and last case was that of a young man operated on in the presence of the class in the Louisville Hospital. He had been struck with the edge of a shovel upon the median line of the forehead. A linear depressed and comminuted fracture resulted. In this case a considerable piece of the os frontis was extracted, the way for its escape having been prepared by the chisel, and a part of the depressed bone was elevated. The longitudinal sinus was opened by the injury, and the oozing of blood from this rendered it impracticable to close the wound in all its extent. He left the hospital at the end of three weeks, or thereabouts, but since his return to the city, I learn from his medical attendant, Dr. Forsyth, that some small pieces of broken bone have been discharged, and the case is therefore still under treatment.

In conclusion, the writer would be glad if any of his former pupils, or his medical friends who have heard his lectures on the foregoing topics, or who have had occasion to see him make the operation according to the precepts here laid down, would, on seeing this paper, communicate to this Journal their own experience in the matter.—*Louisville Medical Journal.*

Three Cases of Funis Presentation treated successfully by the Posture Method. By S. BRANDEIS, M.D., Louisville, Ky.

CASE I.—Mrs. Katharina Rehm, aged thirty, a native of Germany, and who has borne four children (one of which was stillborn in consequence of prolapse of the funis), was seized with her fifth labor on the first day of July, 1858, at four o'clock A.M. At five o'clock the membranes ruptured, followed by a full gush of liquor amnii, which carried forward with it a long loop of the funis and the right hand. The midwife in attendance, having discovered the mischief, sent immediately for my assistance.

I reached the patient within ten minutes, and found the funis, feebly pulsating, outside of the genitals, the hand within, and the head balloting high above the entrance of the pelvis. Remembering a plan suggested by Dr. Thomas of New York, I forthwith placed the parturient on her knees and elbows, supporting the body with pillows in such a way that the pelvis was a good deel higher than the chest.

With slow and careful manipulations I succeeded in replacing both funis and arm far beyond the head, while I kept my hand within the cavity of the womb in order to prevent a further prolapse. Strong labor pains set in, and, soon after, the head engaged so firmly in the superior entrance of the pelvis that all apprehension of a procedentia of the funis vanished. The patient was now placed on her back, labor proceeded rapidly, and three-quarters of an hour later a living child (a boy) was born.

The patient did very well afterwards. The placenta was spontaneously expelled, there was very little after-pain, and recovery took place rapidly. The child is now eighteen months old, vigorous and healthy.

Case II.—Mrs. Katherine Rapp, aged thirty-six, a native of Germany, a stout and healthy woman, and the mother of four children, was taken with labor pains at eight o'clock P. M., October 12th, 1859. Soon after the arrival of the midwife the membranes ruptured, and a loop of the funis and the hand presented. I was summoned to the case at 11 o'clock P. M. On examination I found the midwife's diagnosis correct; the hand was the left one; the loop of the funis, still pulsating, was about three inches long; whilst the head was high above the entrance of the pelvis. The method described in Case I, was immediately carrried into operation. The reposition of the parts prolapsed was accomplished in about ten minutes. Labor pains were rather slow for about three-quarters of an hour, and the patient, having been very much fatigued by her uncomfortable posture, was permitted to lie on the left side with a high pillow under the hips. The pulsation of the child's heart, which had been very feeble, now recovered its full strength, labor pains reappeared, the head engaged firmly in the pelvis, no further prolapsus occurred, and, at half-past twelve, a loud crying child (a boy, eleven pounds in weight) made its appearance. Childbed proceeded without the least disturbance. The child is now four months old.

Case III.—Mrs. Elizabeth Bohn, aged thirty-six, native of Germany, of vigorous frame, but somewhat reduced by a bronchial catarrh which persisted during the later months of gestation, sent for a midwife at eleven P. M., February 3d, 1860. The pains were so slow and feeble that patient and midwife slept several hours during the night. At five o'clock A. M., contractions of the womb reappeared more forcibly, the membrane ruptured; after which the midwife discovered the funis projecting through the os uteri, but could not find any fœtal part presenting. My assistance was called for at seven o'clock A. M., February 4th, 1860.

On examination, I found the funis in from four to five small loops projecting through the os uteri, which was only partially dilated; the head being high above the pelvis, I could discover only by introducing my full hand.

After placing the patient in the position already described, efforts were made to replace the funis, which was more difficult in this case than in the two former, as several loops were projecting,

and one would drop down while another was carried up; but nevertheless the aim was accomplished in a very short time, and the operating hand kept within the uterus in order to prevent another prolapsus. In the meantime, uterine contractions propelled the head into the pelvis. The patient was now placed once more on her back (to her great comfort), and auscultation soon convinced me of the child's life.

Labor proceeded rapidly, and at a quarter-past eight A. M., one hour after my arrival, a crying child proclaimed to me once more the success of the operation.

The patient had some after-pains, which yielded to slight medication. She is now doing well.

A few remarks on the merits of the operation employed in the cases just reported, will be permitted.

The presentation or rather the prolapsus of the funis, is by all authorities in the art of accouchment considered as a complication most disastrous to the life of the fœtus, and the great variety of contrivances invented for the occurrence is the most eloquent testimony for the difficulty of its removal.

The space granted to this paper does not permit the reporter, nor is it his aim to go into a detail of the various modes of treatment; but it may be remarked, that not only the life of the fœtus, but the life as well as health of the mother is often endangered or lost through the severe operations—forceps, version and craniotomy—often resorted to, after repeated efforts have failed to replace the funis. The following table, collected from the highest authorities, shows the numerical proportion of this occurrence:

Collins,	16,152 cases of labor.		97 funis presentation.		1 out of 155
Churchill,	90,983	"	322	"	1 " 282
Michaelis,	2,400	"	27	"	1 " 88
Boivin,	20,357	"	38	"	1 " 535
LaChapelle,	15,652	"	41	"	1 " 411
Hardy and McClintock,	6,702	"	37	"	1 " 181
Klein,	5,490	"	55	"	1 " 100
Barstch,	4,425	"	16	"	1 " 276
Arneth,	6,608	"	33	"	1 " 200
Skanzoni,	8,415	"	29	"	1 " 290

Out of 177,184 accouchments, which is the total amount of the figures just referred to, prolapsus of the funis occurred 695 times, giving a proportion of one 1 : 264, showing that this anomaly is one of the most frequent disturbances of labor.

Another table will show the relative mortality of children born under these circumstances:

	PROLAPSUS OF FUNIS.	CHILDREN STILL BORN.
Mauriceau,	39	15
De La Motte,	14	5
Clarke,	66	49
Collins,	97	24
Churchill,	322	220
Hardy and McClintock,	37	25

	PROLAPSUS OF FUNIS.	CHILDREN STILL-BORN.
La Chapelle,	41	8
Michaelis,	27	20
Boivin,	38	18
Arneth,	33	11
Skanzoni,	29	13
	743	408

Thus 743 cases of prolapsus funis gave 408 still-born children, a proportion of 1 : 1.82, which shows clearly enough that accoucheurs have not been very successful in treating this kind of labor.

The rationale of the posture method being obvious to every skillful practitioner, we shall, in conclusion, try to give the indications for it.

First. The operation is only admissible as long as circulation exists in the funis; even if the circulation is feeble, it may soon be restored after the impediment is removed.

Second. The os uteri must be sufficiently dilated or dilatable.

Third. The liquor amnii must be partly retained; otherwise, if it should all have escaped, and the uterus be firmly contracted over the child's body, every effort for the reduction of the prolapsed funis would be in vain.—*Louisville Med. Jour.*

On the Mental Peculiarities and Mental Disorders of Childhood. By Charles West, M. D., Physician to the Hospital for Sick Children.

Gentlemen—Those of us who have been for some years engaged in the practice of medicine, must be aware of important changes which time has wrought, not only in our powers of observation, but also in the objects to which those powers are directed, and that we now watch minutely many things which, in days past, we were wont to pass by almost without notice. At first, and for a time, we studied diseases, the changes which they wrought in the frame, the symptoms which gave token of their presence, and we did well. We found, however, that in spite of all our care, we often fell into error, especially in the opinion we formed of the probable issue of the case; that according to the different individualities of our patients, the same disease ran an unlike course; that it was widely modified by the habits, occupation, disposition of the sick person; that if we were to avoid mistake, our prognosis and our treatment must often vary, in accordance with other rules than those which can alone be laid down in nosologies. We no longer studied diseases only—we studied the diseased.

The importance of this two-fold study is not equally recognized by all, and hence it happens that the most successful practitioner of medicine (successful, I mean in a far higher sense than that of being he who makes the largest income,) is by no means always

the man of highest scientific attainments, but often the one who, though otherwise inferior, has a more genial character, a livelier sympathy with his fellows; qualities which not merely enhance the personal regard of his patients, but which greatly heighten the real value of his opinions, and lead him, not infrequently, to right conclusions, even when he is unable to assign perfectly satisfactory reasons for them, either to himself or to others.

The strongly-marked individuality of the adult gives constant occasion for the exercise of these qualities, and even they who are the least possessed of them cannot fail to perceive their importance. In the case of children, however, individuality is far less marked; its influence, therefore, is too often practically ignored, the mental and moral peculiarities of childhood are little thought of, and disease in early life is often looked on as though its course were altogether undisturbed by those influences which in the grown person are recognized by all as having a large share in conducting the patient to death, or in bringing about his recovery.

It is, I think, worth while to look at the child from its mental as well as from its physical side; to see how in its immaturity the mind re-acts on the body as well as body on the mind, and to take a hasty glance at the mental peculiarities and mental disorders of childhood.

No one can have watched the sick-bed of the child without being struck by the almost unvarying patience with which its illness is borne, and the extremity of peril from which, apparently in consequence of that patience, a complete recovery takes place. Much, indeed, is no doubt due to the activity of the reparative powers in early life, but much also to the unruffled quiet of the mind. No sorrow for the past, no gloomy foreboding of the future, no remorse, disappointment, nor anxiety depresses the spirits, and enfeebles the vital powers. The prospect of death, even when its approch is realized, and this is not so rare as some may imagine, brings in general but small alarm; it may be from the vagueness of the child's ideas; it may be as the poet says, that in his short life's journey, "the heaven that lies about us in our infancy" has been so much within him, that he recognizes again more clearly than we can do—

> " * * * the glories he hath known,
> And that imperial palace whence he came."

I refer to this, gentlemen, because the truth is one which has its practical side; because to keep the sick child happy, to remove from it all avoidable causes of alarm, of suffering, of discomfort, to modify our treatment so as to escape a possible struggle with his waywardness; and even, if death seems likely to occur, to look at it from a child's point of view, not from that which our larger understanding of good and evil suggests to our own minds, are duties of the gravest kind, which weigh on the physician, on the parent, on the nurse; and which it behooves us to remember none

the less, because they are not dwelt on in the lecture-room, or in the medical treatise.

But not only does the child live in the present far more exclusively than is possible for the adult, but there are besides other important points of mental difference between the two which have a serious influence on the manifestations of disease, and also on our treatment of it. The mind of the child is not merely feebler in all respects than that of the adult, but in proportion to the feebleness of his reasoning powers, there is an exaggerated activity of his perceptive faculties, a vividness of his imagination. The child lives at first in the external world, as if it were but a part of himself, or he a part of it, and the glad-heartedness which it rejoices us to see is as much a consequence of the vividness with which he realizes the things around him, as of the absence of care to which it is often attributed. This peculiarity shows itself in the dreams of childhood, which exceed in the distinctness of their images those which come in later life, and shows itself too in the frequency with which, even when awake, the active organs perceive unreal sounds, or conjure up at night occular spectra; and these not merely colors, but distinct shapes, which pass in long procession before the eyes. This power fades away with advancing life, until, except under some condition of disease, the occasional appearance of luminous objects in the dark, remains the only relic of this gift of seeing visions with which, in some slight degree at least, most of us were endowed in our early years. The child who dreads to be alone, and asserts that he hears sounds or perceives objects, is not expressing merely a vague apprehension of some unknown danger, but often tells a literal truth. The sounds have been heard; in the stillness of its nursery, the little one has listened to what seemed a voice calling it; or, in the dark, phantazms have risen before its eyes, and the agony of terror with which it calls for a light, or begs for its mother's presence, betrays an impression far too real to be explained away, or to be suitably met by hard words or by unkind treatment.

Impressions such as these are common in childhood even during health. Disorder, direct or indirect, of the cerebral functions, more commonly the latter, greatly exaggerates them. The minor degrees of somnambulism, such as getting out of bed while asleep, are by no means uncommon in childhood, and even more frequent are those attacks of night-terrors, in which, after a short doze, the child awakes in a state of intense alarm, with the distinct vision before it of some frightful object, which does not disappear for some minutes, and which returns sometimes the same night, sometimes the succeeding one, with just the same appearance as before.

It follows, then, that the circumstances which surround a child, whether in sickness or in health, are of far more importance than are those about the adult; and that their influence for good or for harm, is far more powerful, and is never to be lost sight of in the treatment of the diseases of early life.

But while the child lives thus in the present, and while this

present is but the reflection of the world around, its impressions uncontrolled by experience, ungoverned by reason, the moral qualities are not in the same undeveloped state as the intellectual powers. The child loves intensely, or dislikes strongly; craves most earnestly for sympathy, clings most tenaciously to the stronger, better, higher, around it, or to what it fancies so; or shrinks in often causeless, but unconquerable dread, from things or persons that have made on it an unpleasant impression. Reason as yet does not govern its caprices, nor the more intelligent selfishness of later years hinder their manifestation. The waywardness of the most willful child is determined by some cause near at hand; and he who loves children and can read their thoughts, will not, in general, be long in discovering their motives and seeing through their conduct.

One word more I have to say with reference to that intense craving for sympathy so characteristic of the child. It is this which often underlies the disposition to exaggerate its ailments, or even to feign such as do not exist, and in which attempts at deception it often persists with almost incredible resolution. Over and over again I have met with instances, both in private and hospital practice, where the motives to such deception were neither the increase of comfort nor the gratification of mere indolence, but the monopolizing the love and sympathy which, during some bygone illness, had been extended to it, and which it could not bear to share again with its brothers and sisters. This feeling, too, sometimes becomes quite uncontrollable, and the child then needs as much care and as judicious management, both bodily and mental, to bring it back to health, as would be called for in the case of some adult hypochondriac or monomaniac.

These mental peculiarities of early life may seem at first to have little to do with the cure of disease; but in reality you will find that this is not so; but that in proportion as you make them your study, and as you become able in consequence to sympathize more completely with your patient, will your diagnosis in many instances be more accurate, and your treatment more successful.

This brief sketch must suffice for the first part of my subject, and will, I trust, have prepared you for the better examination of the second, namely, the influence of disease upon the mind in early life. This shows itself either in weakening of the perceptive powers, or in altering and perverting the moral faculties. Of these, sometimes the one, and sometimes the other, is the more obvious, though it is very rarely that either exists absolutely alone.

As in diseases of the body, so in the affections of the mind in early life, the power of repair furnishes us with a constant ground for hopefulness, which we should be less warranted in indulging in the case of the adult. The dullness, the apathy, the cerebral disturbance, which accompany many of the diseases of early childhood, have therfore by no means so grave an import as we should be compelled to attach to them, if present to the same extent at a more advanced age. The whole of the child's intellectual energy is

expended on his commerce with the world around him; his relations to it are disturbed; night terrors bad dreams, distressful phantasms, betoken this; or the ear is pained by sounds, and the eye by light—not because the organs of sight or of hearing are specially disordered, or the brain is specially affected; but because, with the limited mental endowments of the child, such are the only ways in which their sympathetic disorder can manifest itself. Or the disease has passed away; the active, intelligent, observant child is left dull, takes no interest in what goes on around him, forgets his prattle, seems scarcely to know the simplest word, though before he spoke fluently. This, again, need not cause too much apprehension. The child's memory is feeble; during the protracted illness, the customary impressions were no longer made upon his senses in the sick-room, or they passed unnoticed in the unconsciousness of fever; so that, when recovery takes place, the lesson has to be learnt again, and learnt with faculties weakened by the bygone ailment. For this you must be prepared, and prepared also for the very gradual process, extending sometimes over months or years, by which the ground lost is made good again: the time occupied by it being in general all the longer, in proportion as the child was younger when the original attack of illness came on. The infant of eight months old will show for months no ray of dawning intelligence; the little one just beginning to speak, will remain silent for months; while the child of four or five years will generally in a few weeks regain his forgotten lore. Simple as all this seems to be, and really is, it yet is not always borne sufficiently in mind; and these hints may enable you to save your patient's friends from much needless anxiety.

There is a caution, however, not to be lost sight of in these cases; namely, that protracted illness, even when unaccompanied by evidence of serious disorder of the brain, is sometimes succeeded by permanent impairment of the sense of hearing, and that the child's dullness may be the result of the loss of the power of receiving impressions, through one most important medium, from the external world.

A little girl, two years and nine months old, was attacked at the age of one year and nine months by what was said to have been inflammation of the lungs, though it is uncertain whether or no a convulsion occurred at the outset. She got well without any other sign of cerebral disturbance having manifested itself. Before the illness, she was beginning to talk, used to call her father, and to say many little words, but since then she had not spoken at all. The question raised was, whether the silence and some strange ways, different from the child's previous manner, were indicative of disease of the brain and of incipient idiocy, or were merely the results of her loss of hearing. I took the child into the hospital for a time to watch her; her intelligent countenance and strangely earnest manner showed almost at once that her intellect was acute enough. A very few days' observation confirmed this impression;

the child was dumb because she had become deaf, and her speech had ceased so soon, because the progress she had made at the time when illness first overtook her was so small.

If the same accident occurs somewhat later in life, when the child has learnt to speak pretty well, its nature is more likely to be misunderstood; for the child does not all at once forget to talk, but speaks imperfectly with gradually lessening distinctness; and forgetting first some words, then others, her condition more nearly resembles one of imbecility; and unless special care be taken to test the powers of hearing, error is very likely to be committed. I confess I made this mistake myself in the case of a little girl four years and seven months old, whom I first saw a year after an attack of a somewhat ill-defined febrile character, accompanied by a comatose condition, which lasted for several days, and left her in a state of great weakness. Though she regained strength, it yet was a long time before she tried to speak again; and, when she did, her articulation was very indistinct. In the course of time, she seemed as strong as ever, and her intelligence appeared not deficient, but her utterance grew more and more indistinct; she became flushed, angry and excited, and made inarticulate noises when she could not obtain what she wished, and when I first saw her she had for some time ceased to talk. Her altered temper, her fits of passion, the inarticulate sounds which had taken the place of speech, suggested the idea that idiocy was supervening on the disorder of the brain, which had formed so marked a feature of her illness. In a short time, however, careful observation ascertained that speech had ceased, because the sense of hearing first had failed, that the case was one for the deaf and dumb school, not for an idiot asylum.

The arrest of development, or the positive retrocession of the mental faculties in childhood may be regarded almost invariably as of far less serious import than any manifest perversion of the moral powers. The child who, in spite of intellectual dullness, attaches itself to those about it, and manifests the ordinary childish feelings, is not one concerning whom there is any occasion to despair, or whom judicious training will not do very much to improve. Several circumstances influence the degree of dulling of the mental powers, and are to be taken into consideration in forming an estimate of the child's condition, and his capabilities of improvement. In proportion as the original illness was accompanied with convulsions or serious cerebral disturbance, will the subsequent impairment of the intellectual powers be profound, and their recovery slow in taking place. In proportion, too, to the early age at which such illness occurred will its results be serious; and this not necessarily owing to the gravity of the mischief, but owing to the low state of attainment to which the child had reached when its further advance was interrupted. Thus, for instance, the apparent obscuration of intellect will be greater if it had overtaken the child before it had learnt to speak, than if it had come on later; and though not the less teachable, yet more will remain to be taught in the for-

mer case than in the latter; and a child, perfectly capable of improvement, may be passed over as utterly destitute of all capability of intellectual progress, owing to the age at which disease overtook it not being borne in mind. Lastly, it must be remembered that a very large number of children, whose intellectual progress has been arrested at an early age, are allowed to grow up for years without any culture whatever, and that as much of their apparent dullness may be due to unintentional neglect as to actual disability.

Thus it happened to me, not very long since, to see a little boy, aged six years, the eldest of three children of parents in whose family no other instance of intellectual deficiency had appeared. This little boy had been attacked by convulsions when eight months old, at which time teething was just commencing. These convulsions were not violent; they recurred at intervals for two months, when they ceased; and neither fits nor any other form of cerebral disorder had susequently appeared. He was left, however, by these attacks unusually dull; and though his bodily development had been uninterrupted, he had never made any attempt to speak. He was attached to those about him, was cleanly in his habits, decided in his likes and dislikes, was almost always happy; amused and pleased with trifles, but in a state of constant unrest, scarcely quiet for a minute at a time; not to be persuaded to sit down except when thoroughly worn out, and unable to fix his attention on any object whatever. His parents called him a dumb boy, and as such he had been passed over almost without a thought by those who had seen him. I found that his hearing was perfect; I noticed, too, that the sounds he uttered, though inarticulate, were modulated, according to the feelings of which he intended them to be the expression. I said that he was not dumb, that speech would be acquired under judicious teaching; that to fix his attention to simple objects was the first step towards his improvement; that this step gained, ideas would not be long in being followed by words.

He was sent by my advice, in the absence of other means of teaching, for a few hours daily to one of those institutions in which, under the name of the Kinder-Garten system, a modification of the Pestalozzian and infant-school system of education is carried out; and here, for the first time in his life, an attempt, and necessarily a very imperfect one, was made at training and teaching. At the end of six weeks he was already much improved. He uttered a few words, and these were associated with ideas, not parrot-like, acquired by mere imitation. That, however, which to my mind was the most satisfactory index of improvement was, that he who before could not be induced to remain quiet for a minute, now sat by his teacher's side for five or ten minutes attending to his instructress. He distinguished colors, selected them according to their names; he plaited sticks, and built with bricks in imitation of patterns; he saw when he had failed, and himself endeavored to rectify his mistake—achievements very humble indeed in comparison with most children of his age; but yet to my thinking a great

triumph as the results of the first six weeks of teaching, which (from no want of love or care, but from mere want of knowledge) had ever been expended on the child.

Apart from those instances, almost exclusively congenital, in which arrested development of mind is associated with arrested development of body; where the feeble and misshapen frame forms a fit tenement for the feeble and unformed spirit; where the body seems almost as little alive to physical impressions as the mind is to intellectual perceptions, where the feet refuse to walk, the hands to grasp, and almost the jaws to masticate, where in fact the lowest degree of idiocy is present; I think the state of the moral powers more important as a guide to our prognosis than the condition of the intellectual. Want of affection, mischief, spite, causeless rage, indicate a state from which recovery is far more hopeless than from mere intellectual dullness; and more than this, the cases in which such perversion of the moral powers begins to manifest itself, assume at once a far graver aspect than they had before presented; and in such cases the establishment of moral control is the first step towards mental progress.

This brings me now, in the next place, to remark on some of the mental perversions of children, which come on independently of mere intellectual feebleness; or, if associated with it, the latter is frequently the consequence of the other, or at any rate succeeds it in point of time. Such phenomena we occasionally observe accompanying the development of epilepsy in childhood; attacks of fury coming on without obvious cause, neither preceding a fit nor following one.

A boy, aged nine years, was admitted into this hospital in June, 1852, suffering from epilepsy, which had come on causelessly during the preceding year. These fits were sometimes violent, and succeeded by much dullness, at other times they were of short duration, and followed only by slight head-ache. The boy remained in the hospital for about two months, and was then discharged unrelieved. The reason for his dismissal was that he had become liable to occasional seizures of maniacal excitement, in which he attacked the other patients; besides which if any circumstance displeased him, he not unfrequently stripped himself and walked about the ward naked, and this although usually a perfectly well-conducted child.

A little boy came under my observation at the age of eight years, of whom I learnt the following history. His health was perfectly good until, at the age of three years, he had a fall, which was followed by a violent convulsion, that lasted for sixteen hours; and a second fall, a year afterwards, was succeeded by another fit; and ten or twelve more occurred, though with diminishing intensity, during the ensuing twelve months. Afterwards fits took place only about once in six months, and they continued only for two or three minutes, and though accompanied were not followed by unconsciousness. He passed through the diseases of childhood with no impairment of his general health, and went to school, where though backward, he learned to read, and was not remarkably duller than

other children. At the age of six years, while still weak after a fit, he was taken into the park, and came back in a state of great excitement, running about, throwing things down, though not falling nor having a fit; and during the continuance of this condition he still went to school, and though regarded as very naughty and troublesome, his mind was as active as before. His ungovernable disposition, however, led to so many quarrels with his schoolmaster, that at seven years of age he was removed from school; but it was not till more than seven and a-half years old that any marked dulling of his intellect became apparent. He then began to leave off speaking; not articulating indistinctly, and losing by degrees the power of utterance, but apparently intentionally abstaining from speaking, and for two months before I saw him he had not uttered a word, but made signs for whatever he wanted, and became violently excited if these signs were not comprehended. When I saw him he was in a state of restless excitement, moving incessantly, and if left unwatched, either attempting to destroy any object that was within reach, or trying to gratify a propensity to masturbation, to which he had recently become much addicted.

I need not give more details of this case. I referred to it only as exemplifying the way in which perversion of the faculties sometimes precedes their dullness—sometimes exists altogether without it. Between such cases and cases of real idiocy the difference is very wide indeed; though, for obvious reasons, not at first so striking as between the insanity and imbecility of the adult. The child whose mind becomes disturbed at a time when his education is still imperfect, his stock of ideas very limited, his experience very small, rapidly retrogrades, forgets his recently-acquired attainments, and, at the age of nine or ten, will be found—if his mental disorder has lasted for a year or two—as destitute of intelligence as the child who from birth had been incapable of education.

These attacks of maniacal excitement and the more acute forms of insanity usually, though not invariably, follow or accompany epileptic attacks; but slight degrees of mental perversion sometimes manifest themselves in early life, which, for want of being understood and properly dealt with, assume with advancing years the character of insanity, and of insanity in its least hopeful forms.

As I have already mentioned, almost all of the mental disorders of early life take the form rather of moral than of intellectual disturbance. Distinct hallucinations, fixed ideas, the various forms of insanity or of monomania, such as appear in the grown person, can hardly occur in the child; but the whole moral equilibrium is sometimes suddenly shaken, by a cause which may perhaps hardly seem equal to the production of so grave a result; or more slowly the temper may alter, the passions grow ungovernable, or the child sink by degrees into the condition of the morbid hypochondriac.

How grave an effect a sudden shock may produce on the nervous system of a young child, was shown in the case of a little boy, five years old, who, when in not very good health, was taken, on October

23, to his father's funeral. The strange, sad scene overcame him, he shivered violently, became very sick, complained by signs of pain in the head, but had lost the power of speech, and was unable to protrude his tongue. He was able to swallow, but refused food; he lay listless and indifferent to all surrounding objects, but rested ill at night. On October 26, he was admitted into the hospital, when his expression was dull, his pupils were unnaturally dilated, he could not close his right eye, his mouth was drawn to the left side, and the saliva dribbled from the right corner of his mouth, power over the right arm was impaired, and the head was drawn to the left side. These symptoms did not persist; power over the right side returned by degrees, as did the power of speech, and that of protruding the tongue; but no corresponding improvement took place in his general condition. On October 28, he had for a few hours a gleam of cheerfulness—sat up, and played with toys—but this soon passed away. His days were spent in a drowsy, apathetic condition, varied only by calls for his mother, which did not always cease even when she was by his side; and the nights were, without exception, restless and excited. On November 3, convulsions occurred, and they were followed by deep drowsiness. The drowsiness deepened, the convulsions from time to time returned, and, early on November 7, he died—just sixteen days after his father's funeral. A little fluid in the ventricles of the brain, a little congestion of its vessels, was all that the anatomist could find. I supppose his mother was right. She said he died of a broken heart.

It behooves us to bear in mind that the heart may break or the reason fail under causes which seem to us quite insufficient; that the griefs of childhood may be, in comparison to the child's power of bearing them, as overwhelming as those which break the strong man down. In France during the ten years from 1835 to 1844, 134 children, between the ages of 5 and 15, committed suicide, or on the average 19 every year.

"In the greater number of the instances," says M. Durand-Fardel,—to whose researches I am indebted for the figures I have just quoted,—"in which the cause of the suicide of children is mentioned, one sees that they have killed themselves in consequence of punishment, or of reproofs, or of ill usage. These facts deserve special attention; they prove how much more the susceptibility and sensitiveness of children need to be taken into consideration than is commonly done."

The lesson which such cases teach is as important for the doctor who tends the child in sickness, as for the teacher who trains him when in health.

But, besides cases in which some comparatively sudden impression produces a sudden disturbance of the intellect, there are others in which the process is far slower, though the results are little less serious. Such are the cases in which mental disorder occurs as the result of over-tasking the intellectual powers. This over-work, too, is by no means in all cases due to the parents unwisely urging the

child forward, but is often quite voluntary on its part. Sometimes, too, the friends of the child are so alive to this risk, that they limit the hours of work, a precaution which nevertheless often proves inadequate from the want of some due provision for turning the thoughts and energies during play hours into a perfectly different channel.

In many instances, the neglect of physical health for the sake of mental culture, lays the foundation of grave constitutional disease, and the child dies at a comparatively early age from the supervention of acute hydrocephalus, or sinks under some form or other of the tubercular cachexia. In other cases, however, the body suffers less exclusively, but the whole nervous system seems profoundly shaken, and the moral character of the child is seriously and even permanently injured.

It is well for the child when the over-work produces for a season dullness and inability for further intellectual labor, for then comes, as a matter of necessity, the much-needed repose. In many instances, unfortunately, the power of application continues, and an almost morbid desire of learning takes the place of other feelings; but the temper becomes irritable, the waywardness extreme, self-control so lessened as to be almost lost, and, though affection is felt to its relatives and is often expressed by the child in exaggerated language, yet that affection by no means suffices to restrain the fits of obstinate ill temper, or of ungovernable passion. Headache is frequently complained of, and an alleged headache is often made the excuse, almost the justification of an outburst of bad humor. Sometimes, too, slight threatenings of epilepsy come on:—a momentary unconsciousness, an unsteady step, a trip of the foot in walking, but even these are often so slight as scarcely to attract the attention of those who deplore the child's altered character. With these changes in its disposition, too, there is often a morbid anxiety with reference to its own health, and the child, exaggerating its ailments, alienates the love of those to whom it has become a daily source of anxiety and torment, and thus grows more and more self-involved and less accessible to the kindly influence of others. It is, too, in this morbid condition of body and mind that the habit of masturbation is not unfrequently contracted, and weakens alike the physical powers, the intellectual capacity, and the moral sense. The gradations are almost imperceptible, by which the slighter degrees of mental disorder—arising in these circumstances—pass into a state of confirmed insanity in youth or in adult age. In the boy, fortunately, the changes in external circumstances, as he grows older, often save him from progessive deterioration, and restore him at length to usefulness, though often with diminished powers, a feeble body, and a stunted mind. The girl does not enjoy the benefit of any similar changes as she emerges from childhood, and hence, though in her case also the worst issue is not the most common, she yet often remains a nervous and hysterical invalid, unfit to manage a household, unfit to bear children, or to rear them—a

creature of whims and fancies, a burden to herself, a trouble to her friends.

Reference has already been made to the disposition, amounting almost to a monomania in some children, to exaggerate the ailments from which they are suffering, or to feign such as have no existence. A morbid craving for sympathy seems to be the main-spring of their complaints, and children will put up with scanty fare and painful treatment as long as they can engross attention, and be the centre around which everything in the household turns.

A few months since a little girl was admitted into the hospital in a state of extreme emaciation, who had been ill for nearly twelve months; various hysterical symptoms, the nature of which had been recognized by the medical man under whose care she had been, having marked the commencement of her ailments. On their subsiding, the child had pronounced herself unable to walk, and for seven months had obstinately remained in bed, had eaten little, and had lost flesh and strength together, till she was brought here as a case of almost hopeless paralysis by her mother. "Put her down," I said to her mother, "and let me see her stand." "Oh, sir! she has not put a foot to the ground for seven months." The order was repeated, the child obeyed the unwonted tone of command, and stood. "Now, walk!"—again a remonstrance, but she walked. She was admitted into the hospital, and the first surprise over, she reiterated her statement of inability to walk. She could not take food, she said, and for some time had to be watched at every meal, and fed almost like an infant. Self had occupied all her thoughts; to call her out of herself, to induce her to occupy herself, bribes and promises and threats were tried by turns. By degrees she was got to stand, and no support being left within reach she kept standing rather than fall upon the floor, and then she walked to the nearest object against which to rest herself. She gained flesh and strength when proper nourishment was not only supplied, but when she was compelled to partake of it. Her mother's visits, by my desire, became few and brief; good-humored raillery and the occasional jokes of her fellow-patients took the place of the too ready sympathy which she had received at home, while praise and rewards followed every attempt to do as she was desired. At last, in the course of some two months, she ate and drank, she walked, and employed herself much like other children, except that she still persisted in bending her back almost double, save when under apprehension of galvanism to the spine which she greatly dreaded, and to avoid which she would sometimes walk about almost as upright as another child. She was sent into the country about a month ago, and having vainly attempted to deceive the intelligent person who has charge of her, holds herself upright, and seems to have given up all pretence of illness.

It would be easy to multiply instances of these feigned diseases in children. I have referred to them not merely because it is of importance to avoid being misled by them, but rather because they

illustrate one phase of mental disorder which is not very rare, and which can be corrected only by much care, much gentleness and patience.

Lectures on Experimental Pathology and Operative Physiology, delivered at the College of France, during the Winter Session 1859–60, by M. CLAUDE BERNARD, Member of the French Institute; Professor of General Physiology at the Faculty of Science.

GENTLEMEN—Our constant purpose in the preceding lectures has been to exhibit, in the strongest light, the intimate connexions which subsist between Physiology and Pathology, and to establish, as far as it lay in our power, that all the phenomena which take place in the living body, whether in health or in disease, are, in almost every case, capable of being rationally interpreted, and distinctly traced back to the action of those laws which regulate the vital functions, both in the normal state, and in its various deviations.

We learn, however, from daily experience, that whatever their general effects may be, the causes of disease are far from acting with equal intensity upon the various individuals who are exposed to their influence. Cold, hunger, thirst, fatigue and moral suffering;—are not these the constantly recurring causes of sickness? and are they not, in some measure, the lot of the whole species? How, then, does it occur, that among those who daily undergo their action, certain individuals are found to give way, while others resist? and, when epidemics are raging in given localities, how does it occur that some persons only are effected with the prevailing distemper, while others, who live in constant communication with the victims, escape unharmed? To the mysterious power which thus modifies, in each particular case, the influence of external agents, we give the name of Idiosyncrasy.

We may, I believe, take it for granted, that not only morbid, but also physiological predispositions exist in man as well as in the lower animals: even in a perfect state of health each individual retains his own peculiar habit of body, and is, in consequence, more liable to certain accidents than his neighbor. The various animals which serve for our experiments are far from exhibiting the same phenomena, under the influence of agents entirely similar in their nature. You are already aware that as we rise or descend in the scale of being, we find animals endowed with different degrees of sensibility to the action of certain poisons—those, for instance, which operate more especially on the nervous system. There exist, therefore, within the limits of health considerable differences between living beings; and, as we have previously established, these various properties are not merely the result of organi-

zation, but frequently depend on the condition in which the animal has been placed. In this manner, as we have already seen, a rabbit may be brought down to the level of a bactrachian; and, by reversing the experiment, the inverse result may be obtained. Now, these important modifications are almost invariably produced through the agency of the nervous system.

Not only do the various species of animals differ in this respect; but even individuals belonging to the *same* species are so far from resembling each other, that they cannot be submitted to the same experiments. So exquisite is the nervous sensibility of dogs of the higher breed, that the slightest operations bring on fever, and are attended with alarming symptoms; they cannot, therefore, be employed in researches connected with the gastric juice, the pancreatic secretion, etc.; in fact, all operations performed within the abdominal cavity are liable to superinduce peritonitis in these highly sensitive animals, and generally prove fatal. In dogs of a more vulgar class, how different are the results of similar experiments! During the operation, the animal hardly attempts to move, and scarcely seems to suffer; the appetite remains unimpaired, and the secretions normal; in short, the various functions of the economy pursue their natural course.

In the horse these differences are, if possible, still more strongly marked. The characteristics of certain breeds are, in colloquial language, attributed to blood; it would be more correct to attribute them to nerves; an irritable, sensitive, and highly organized nervous system is, in fact, the essential difference which separates a race-horse from one of those diminutive half-wild ponies which hilly countries so abundantly produce. Would not the results of the same experiment be entirely at variance in these different animals? and what comparison could we possibly establish between them? It is, therefore, indispensable whenever great powers of endurance are required for the purposes of scientific research, to select an animal of the lower breed; if, on the contrary, sensitiveness and nervous irritability appear desirable, none but the nobler kinds will afford the requisite qualities. Experiments on recurrent sensibility, for instance, which, in the greyhound and pointer, are generally successful, if tried on a shepherd's dog would fail in almost every case. Cold-blooded animals stand, of course, in this respect, at the very bottom of the scale. It will, therefore, easily be conceived, that a state which in certain animals would constitute actual disease, may be perfectly natural in others.

The difference between individuals may be naturally expected to be far more extensive in man, than in all other living beings; and, if we might venture to allude to a subject which actually occupies the public attention, is not hypnotism a peculiar state, which can only be superinduced in a small number of highly sensitive and nervous patients? and do not all the phenomena of mesmerism, somnambulism, and similar nervous symptoms, fall under the same general rule? It is, therefore, evident that idiosyncrasies

are only peculiar susceptibilities which exist, in the normal state, in various individuals.

Up to this moment, however, we have only examined physiological and innate predispositions, so to speak; but, as medical men, we are far more deeply interested in the investigation of accidental, transitory, and morbid idiosyncrasies. To ascertain the circumstances which may be supposed to give them birth, is, to the physiologist, a most important object of research.

If we compare an animal in a state of abstinence to one in full digestion, the most evident discrepancies will be noticed in the results of experiments simultaneously performed upon them. A dose of strychnia which almost immediately kills the second, will not act before a certain lapse of time upon the first. The powers of absorption have, of course, been called into account for so remarkable a fact, but we are aware that absorption, in a state of abstinence, is more active by far than during the process of digestion; the explanation is therefore unsatisfactory. The lowering of the physiological activity of the nervous system is, in reality, the only cause to which the difference can possibly be referred. When deprived of food, the animal gradually sinks in the scale, and acquires properties altogether foreign to its previous state. Is this a morbid condition? No; but the natural result of a well-known physiological process.

We, therefore, entirely deny the existence of a so-called Morbid Physiology, if by this expression a state of things entirely independent of the ordinary laws of life, is to be understood. Such expressions ought to be expunged from the book of science; they only serve to render our notions confused, and lead the student astray. When speaking of Medical Chemistry, for instance, we do not pretend to say that the chemical actions which take place within the living body are totally distinct from those observed without. Morbid physiology has, no doubt, its laws; but they are precisely the same as those which regulate, in the healthy state, the vital functions.

Not only abstinence, but cold and various other causes, modify the conditions of life, and alter the results of our vivisections; under a low temperature, cold-blooded animals grow less sensible to the action of certain poisons; a larger dose of strychnia is required to kill a frog in winter than in summer. But chloroform, ether, and even more ordinary inebriation produce similar results; and, in America, it appears to be generally understood that intoxication is a preservative against the bite of the rattlesnake.

These, however, are the physiological modifications of the system. Our purpose is to investigate those which pertain to the morbid state. It is a well-ascertained fact that medicines do not act on sick people in the same manner as on persons in the full enjoyment of health. Now, the biological conditions superinduced by disease evidently lie at the root of these irregularities. To adduce a well-known instance of this, wine, brandy and ardent spirits—so freely used by certain American physicians in the

treatment of low fevers, remain apparently without effect on the patient, even when administered in quantities which, in a state of health, would inevitably produce intoxication. A two-fold explanation of the fact presents itself—firstly, the process of absorption is almost entirely suspended; secondly, the nervous system is strongly depressed. You are, of course, aware that, in cases of typhoid fever, the absorbent powers lie dormant for a long space of time; a fact established by the following experiment: If small quantities of prussiate of potash are dissolved in the patient's drinks, no vestige of this substance is discovered in the urine, or in any other secretion. A similar state of things may be physiologically superinduced; for where secretion is over-excited, absorbent surfaces lose their properties. The inner surface of the salivary gland, which, in a state of rest, rapidly absorbs strychnia or woorara, ceases in some measure to do so when secretion is going on. Five cubic centimetres (one-third of a cubic inch) of an aqueous solution, containing one-hundredth part of strychnia, being injected into the parotid duct in a dog, the animal was almost instantaneously killed. The same experiment being tried on another, in which secretion was kept up by means of galvanism, life was protracted for the space of twelve minutes. Cholera is evidently another instance of the same fact. No substance whatever is absorbed by the intestinal walls, as long as this abundant and characteristic serous discharge continues. But disease, it will be said, is the origin of all these modifications. True; but a physiological process takes place under its influence, and the facts observed are its natural results.

The deficiency of the absorbent power has equally been found to exist under circumstances entirely different from those we have just examined. It occurs, for instance, in mania. Nervous influence here appears to be the sole agent; for, as soon as the acute crisis is past, the process of absorption recommences, as in the healthy state.

Woorara has been used of late in the treatment of tetanus. Out of four cases two have recovered—the other two died; but, in both the successful cases, the ordinary—or, so to speak, the physiological—effects of the poison had been produced; while, in the other two patients, no such result was obtained. Doubtless some peculiar conditions of the nervous system, rendering all impregnation impossible, existed in these two latter cases; perhaps, if treated at an earlier period of the disease, the patient might have recovered. In this respect the well-known effects of sulphate of quinine may be adduced. When administered in large doses (*e. g.* in cases of acute rheumatism), it never abates the pulse nor relieves the other symptoms without previously occasioning deafness—a physiological effect intimately connected with its therapeutical agency, for when, after improving the patient's condition, the dose is too abruptly diminished, the deafness disappears, and all the symptoms previously kept down break out again in full force.

But we also find in animals various predispositions, which not

only modify the action of medicines administered to them, but also render them liable to diseases entirely different, when suffering from causes entirely similar. Being about to perform certain experiments on animals kept fasting for a long space of time, I left some dogs without food for several days; but during the late severe frosts, these animals died unexpectedly. In making the autopsy, we discovered pneumonia in one case, pleuritis in another, and inflammation of the bowels in the two last. Thus, under conditions perfectly identical, these animals were affected with totally different diseases. But similar results may be obtained at will by the physiologist. When rabbits are placed under total abstinence they generally live a fortnight or three weeks; but when certain branches of the sympathetic nerve have been previously divided, the animals die within a few days when deprived of food, through acute inflammation of the viscera connected with the nervous twigs that have been divided. When, some time ago, I commenced this series of experiments, I discovered that the section of large divisions of the sympathetic nerve was apparently unattended with the slightest inconvenience as long as the health of these animals remained perfect. Some of them even became pregnant and brought forth their young; but as soon as a general debilitation of the system arose from want of proper nourishment, acute inflammation was produced in the organs deprived of nervous influence.* We had, therefore, succeeded in artificially creating particular idiosyncrasies in these animals, and could predict with perfect certainty that as soon as health failed disease would arise on a given point.

Morbid predispositions must, therefore, be viewed in the light of peculiar physiological conditions, which, in most cases, depend upon the nervous system; and an immense progress would be realized in medicine, if it were possible to diagnosticate in a state of health the predisposition to disease, and foretell the coming danger. A Russian army physician, who had invented a new spygmometer, and had applied it to the study of various diseases, stated some years ago, that during a severe epidemic of cholera a peculiar slowness of the pulse existed, several days before the explosion of the disease, in those who were marked out to be its victims. I am not aware whether the reality of the fact has been ascertained by other observers; but it would be, at all events, a most precious boon to know beforehand, when epidemics prevail, what persons are more particularly liable to be affected with the reigning distemper; we should thus be far better able to adopt preventive measures, and prescribe hygienic regulations.

In concluding this lecture, gentlemen, let me advise you not to consider idiosyncrasies in the light of mysterious powers residing within the depths of our organs, nor as entirely novel functions superadded as it were to those which already exist; they must be viewed as mere natural manifestations of the ordinary laws of Physiology.

---

* The relation which these experiments bear to the *vexata quæstio* of bleeding in inflammation, will, no doubt, strike the reader.—Translator.

Biography of Claude Bernard.

The intensely interesting and highly instructive Lectures on Experimental Pathology and Operative Physiology, which have been recently commenced at the College of France, by M. Claude Bernard, being about to appear in the columns of the *Medical Times and Gazette*, a brief notice of the labors and scientific career of their distinguished author may not be without interest for the reader.

M. Claude Bernard was born in 1813, at St. Julien, near Villefranche, in the department of the Rhone. I am unable to state exactly in what year he commenced his medical studies, but it must have been about '34 or '35, for, in 1839, he, after undergoing the customary ordeal, entered one of the Paris hospitals as "*interne.*"

Two years later he became attached to the lecture-room of the celebrated Magendie, at the College of France, his position being that of "*Preparateur.*" In other words, the duty devolved on him of making all the preliminary arrangements which the proposed experiments of that distinguished Professor might require.

In 1843, the youthful Bernard, after a brilliant examination, and the usual defence of a thesis, was received as M. D.; and, in 1853, he obtained the degree of "*Docteur en Sciences*"—no mean honor, as all those who know the severity of the test must admit.

In 1847, we find him occupying the honorable and important office of "*Suppleant,*" or substitute to Magendie, and even at times lecturing with very considerable ability to the crowds of scientific men and students who were wont to repair to the lecture-room of that distinguished man. This office, of such high trust and responsibility, he worthily held for seven years.

The natural bias of his mind had, from the very commencement of his studies, inclined him towards physiological researches; but, alas! Bernard was not one of fortune's favorites, and his scanty means forced him to quit the field where he was destined, at a later period, to gain such glorious laurels, and to return to the domain of Surgery. He even went so far as to publish a "*Manuel de Médicine Opératoire,*" in collaboration with M. Huette. Circumstances, however, having brought him in contact with Magendie, the marked taste which he speedily evinced for physiology satisfied that great man he might one day be surpassed by the young aspirant. Fortunately for science, Magendie possessed great influence over him, and succeeded in calling him back to his less lucrative but more favorite studies of physiology.

Some short time after this backsliding—if I may be allowed to use the expression—he was called upon to occupy a position of higher importance still, and one more consonant with his independent and speculative nature than that of assistant to another could possibly be. I allude to the chair of Physiology, which had just been created, in connection with the Faculty of Sciences.

But higher honors were in store, and thick and fast did they de-

scend on him; for we find that, shortly after having attained to the Professorship, he was elected a Member of the Academy of Sciences, in lieu of M. Roux, the eminent surgeon, whose death has just created a vacancy in that learned body.

The following year was signalised by an event which profoundly moved the scientific world—namely, the death of Magendie, whose name had been for years identified with the progress of experimental physiology, and who had, by his extraordinary success, earned for himself the name of "Chief of the Experimental School of Physiology of France." It is well known that the end and object of Magendie in all his teaching and investigations was the subjugation of theory to practice; and in this respect he was a most valuable guide and director to those who were disposed to follow him in his experiments. Sceptical and inquisitive by nature, he mercilessly overthrew whatever would not stand the test of experiment. From such a master the inquiring mind of Bernard could not but take a favorable bias. From such a man he could not fail to draw healthy inspirations. Hence we find Bernard adopting the principles of his esteemed master, and steadily and perseveringly improving and enlarging the field of experimental science—philosophically considering and investigating the normal and morbid manifestations of the animal economy and the laws of life. It was but natural to suppose that the illustrious Magendie should be replaced by his talented pupil; and right worthily has he since filled up the blank which his master's death created, as the attentive and admiring crowds always to be seen in his class-room amply testify. It is not the orator they flock to hear, for, as a speaker, we daily hear better. So rapidly do his ideas seem to succeed each other that he is often at a loss to find words to clothe them. His voice, though not harmonious, is far from being unpleasant. In stature he is above the middle size, well knit, broad-chested, of a nervo-bilious temperament—the latter element predominating. A highly intellectual expression of countenance, with a large and powerful head, give unmistakable evidence of the energy and indomitable perseverance of the man. Though not a rhetorician, in the strict sense of the word, he possesses the rare and happly talent of captivating and enchaining his audience, and inspiring them with the conviction that he is fully and completely master of the subject which he expounds.

But to take a glance at his labors, and what he has already achieved in his particular department. Almost all of his discoveries are of a highly important and practical kind; and they have given, within the last few years, quite a new character to physiological investigation. He has not only struck out new paths, but he has roused the attention of the scientific and the learned to the reconsideration of many fundamental questions which were supposed to have been long settled, but which, in reality had been but imperfectly established; and he has thereby contributed much to a clearer, a more correct, and a more comprehensive appreciation of the essential functions of the animal economy. As far back as

1844, when he was comparatively a young man, and but newly entered on the field of physilogical investigation, he published an elaborate paper on the different secretions of the alimentary canal, and the parts which they respectively play in the digestive process. He had the merit of being the first to show the real mechanism of the secretion of the gastric juice, and the various changes and modifications produced by this liquid on the aliments taken into the stomach. Not less interesting and instructive are the results of his investigations into the saliva and the intestinal secretions generally, and his inquiries into the influence of the different pairs of nerves on the organs of digestion, circulation, and respiration.

But it was in the year 1849 that Bernard first laid the real foundation of his reputation as an experimental physiologist. Prior to this period the real function of the pancreas was involved in obscurity. It had been considered in the light of a salivary gland—a conclusion derived from the similarity of its structure to organs of this class. By a series of carefully-conducted experiments, Bernard showed most conclusively that the real function of the pancreas related to the formation of chyle and the digestion of fatty matter taken into the stomach. For this important discovery he was honored with the great Prize for Experimental Physiology, awarded by the Academy of Sciences in that year.

In 1850, he made known to the scientific world his first discoveries in connection with the liver; and he showed that this organ—the principal use of which in the animal economy was believed to be the secretion of bile—had, in reality, another important function, the existence of which had been, up to this time, completely ignored by physiologists. This discovery was no other than that the liver, in its normal condition, besides secreting bile, was constantly producing sugar. To this new function he gave the name of "*Fonction glycogénique du foie.*" By an immense number of experiments, conducted on species belonging to three of the principal branches of the animal kingdom, he proved to the entire satisfaction of the Academy of Sciences that the blood, before entering the liver by the venæ portæ, contains no sugar; while that which leaves the liver, to enter the heart by the hepatic veins, is abundantly charged with this element. He further proved that this new function was intimately connected with and influenced by the nervous system, and that, by operating on the latter at certain points, an artificial diabetes mellitus can be produced at will. This important discovery, which at first met with much opposition, is now, so far as I know, an acknowledged fact; and its importance, as regards the pathology and treatment of diabetes, is too evident to require remark. It follows from it, that this malady is nothing more nor less than the disturbance of a physiological function; and, that function residing in the liver, it is to this organ, and to those parts of the nervous system which influence it, that the medical man must direct his attention, with a view to its cure. For this most important and practically useful discovery, M. Bernard was again awarded the great prize for Experimental Physiology.

In 1851, his researches in connection with the great sympathetic were so highly approved by the Academy of Sciences, that, for the third time, he received the great prize in physiology. They have since been published, and are not the least interesting of his numerous productions. He shows, therein, that if a section be made of any of the branches of this nerve, the temperature of the parts which they supplied is instantly and permanently augmented, and that the inverse of this takes place when the nerves of the cerebro-spinal axis are divided—in other words, that, in this latter case, there is a manifest diminution of the temperature. Further, that the section of the branches of the great sympathetic, besides being followed by increased temperature, is also attended with great vascularity of the parts which these branches supply. It is easy to appreciate, in practical medicine, the great value of these discoveries, which, up to the present time, so far as I am aware, have not been controverted.

Other discoveries on the subject of animal heat, too numerous to be embraced in this notice, have also been made known by M. Bernard. His experiments, proving the elective elimination of certain substances by the secretions, and especially by those of the salivary glands, as well as his discoveries on the special functions of the spinal nerves, are fraught with intense interest and importance, as well to the physiologist as to the practical physician. Indeed, there is hardly a question in the wide domain of physiology and pathology which has escaped his attention.

Having thus touched on the leading points in M. Bernard's scientific life, we must not forget to add that he follows science for science' sake; patiently and perseveringly he toils for seven or eight hours every day in his laboratory. The world is deeply indebted to him; and, nevertheless, he is but poorly remunerated. His two professorships—the one at the Faculty of Sciences and the other at the College of France—together with the trifling sum derived from the Institute, of which he is a member, constitute in all but a modest income—not greater, perhaps, than that of a moderately busy country practitioner in England. Thus is science honored—thus are its disciples recompensed in military and imperial France!—*Medical Times and Gazette.*

Medicine, its Deriders and Sects.

The substance of the following interesting notice on the vicissitudes and progress of medicine is derived from the *Revue des Deux Mondes.*

Antiquity had its critics—either bitter and brutal, or satirical and polished. Heraclites hated physicians; he was wont to say that they would be the most silly of men if grammarians were not

there to dispute the position with them. But this morose philosopher had his own system of medicine, and a peculiar practice founded upon his theories of Nature. He made such good use of it, indeed, that he at last died through it. Empedocles—jealous of the physician Acron, illustrious by his writings and experience—gave himself out as a messenger from heaven, charged with the mission of exterminating diseases and other destructive scourges; he journeyed from town to town, carried in a splendid chariot, clothed in magnificent garments, and received adorations and sacrifices like a god. We know how he died, victim of his vanity, or scientific curiosity. Plato, again, did not spare the doctors; he mocked with pleasure at their incapacity; but he, nevertheless, had a system of his own, which he had picked up from every quarter, as was his habit. From this we may conclude, that from the earliest days there has been a rivalry between doctors and philosophers, and that the last were jealous of the first.

The Greeks confined themselves to epigrams; but it was otherwise with the Romans. Physicians came at a late date into Rome, and had a difficulty in keeping their ground there. The elder Cato hated them, and prevented his son consulting them. And yet the rude censor practised medicine in his own fashion; he possessed infallible secrets and efficacious panaceas. His method was simple enough, and, absolute master of his house, he treated man and beast alike. Pliny gives us these details, and Pliny, we know, was not favorable to doctors. In Martial's epigrams, to say nothing of other Latin poets, the doctors are ill-treated enough, and, we must admit, not without justice. The profession was in the hands of slaves, and degraded by venal souls, easy instruments and too often accomplices of corruption, debauchery, immorality and crime. Decay had then invaded everything.

Next came the barbarians and universal confusion, and we lose sight of medicine during the first centuries of the middle ages. To the Arabs we are indebted for a sort of *Renaissance;* but it was in the first universities that the practice of medicine took the direction and the proper character which it bears still to this day. Now appeared the true physician, and by his side an adversary far more formidable than his opponent of antiquity.

Before the middle age, the art of medicine was decaying fast; and as it passed through this long period it still continued in decay The traditions of the Greeks were gradually lost; the exercise of the art fell into the hands of monks and clergy, for the most part very ignorant, and hence, superstitious practices and absurd proceedings—the supernatural and marvellous being put in the place of experience and good sense. It was a time of miracles and prodigies—the sorcerers rivalling the saints; and while the plague and the lepra committed ravages among the people, the resources of medicine were useless to arrest the scourges. The Jews at this time were hated and persecuted, but yet they were run after for their medical knowledge, and for the drugs obtained by them from the east through traffic with the Arabs.

The *Renaissance* awakened a spirit of inquiry. The records of antiquity, once again opened, were discoveries as of a new world. And then began the general strife against orthodoxy. Heretics and Protestants were to be found elsewhere besides in the church. Aristotle and Galen were treated like the Pope, and so commenced the long quarrel between ancients and moderns.

This struggle, also, medicine has passed through; but it gained an infinite number of enemies, and chiefly the charlatans. At an early hour these industrious gentry seized upon medicine, which offered so vast a field for the exercise of their ingenuity. From Montaigne down to Rousseau—not to mount higher or go down later—we find a concert of invectives against medicine, the noise of them being still audible, though weak. Infinite variations were played continually on the same strain. It has taken three centuries to reduce the pretensions of physicians to their true proportions. Chemistry, which appeared at the first dawn of the *Renaissance*, explained all the phenomena of the animal economy by the principles of a gross chemistry—seeing there nothing but fermentation, distillation, and effervescence of humours at work in the living laboratory. Then, later, after the discoveries of Galileo and Newton, mechanics, with its levers and instruments, explained the forces; and, after Harvey, hydraulics. Thus arose the sub-sects—iatro-chemists, iatro-mechanicians, and iatro-mathematicians. These were materialists, and soon found their opponents, the spiritualists. Truth was with neither sect, but the spiritualists have rendered most service to medicine. Stahl produced Barthez and Bordeu, and Bordeu produced Bichat. Still, even at this present day—but how enfeebled!—the two parties are face to face. Gradually they are disappearing, leaving in history the remembrance of their long and ardent struggles, prolonged for three centuries and a half—from the end of the middle ages to the commencement of the French revolution.

Two sects, either through indifference or through calculation, kept clear of the struggle—the empirics and the sceptics. At the head of the empirics was Sydenham. Their business was to watch attentively the origin and progress of phenomena, noting with scrupulous care effects of remedies and the fruit of observation, leaving aside all useless speculation.

Scepticism glided into medicine, thanks to the demi-savans. The title of sceptic belongs to those narrowed and pretentious souls, who, contented with a superficial view, seize only the surface of things, losing sight of the links which unite them, and boldly denying the existence of whatever escapes them, affirming in this absolute negative their incapacity and deficiency. Lower still in the scale of systems we find the eclectics—physicians who, following certain metaphysicians, think to find a perfect system in taking what is good out of every system. Their appearance on the stage announces the end of systems. In the scientific as in the social order, end means transition, a new phasis, commencement of a new order. Medicine,

which has undergone so many vicissitudes, is thus at present traversing a period of transition; it is in the way of organization, in a provisionary state.—*Med. Times and Gaz.*, Feb. 18, 1860.

The Gold-headed Cane.

We shall not be accused of imputing to them a lack of biograpical lore, if we suppose that a majority of our readers have never heard of a small volume, entitled "The Gold-headed Cane," which professes to be the reminiscence of this at one time constant accessory and companion of every physician, when in full costume, and going his professional rounds.

> "Physic of old, her entry made
> Beneath the immense full bottom's shade,
> While the gilt cane with solemn pride,
> To each sagacious nose applied,
> Seemed but a necessary prop,
> To bear the weight of wig at top."

The quondam editor, in a most commendably short prefatory "Notice," gives a clue to the brief history, by telling us: "A short time before the opening of the New College of Physicians [London], Mrs. Baillie presented to the learned body a Gold-headed Cane, which had been successively carried by Drs. Radcliffe, Mead, Askew, Pitcairn, and her own lamented husband. The arms of these celebrated physicians are engraved on the head of the Cane, and they form the vignettes of the five chapters into which this volume is divided."

The Cane begins its autobiography by saying, that "It was deposited in a corner closet of the Library, on the 24th of June, 1825, the day before the opening of the New College of Physicians, with the observation that I was no longer to be carried about, but to be kept among the relics of that learned body." After having been closely connected with medicine for a century and a half, it was natural that the gold-headed cane, like other celebrities, should employ its leisure in recording the most striking scenes it had witnessed. "Of my early state and separate condition," says the narrator, "I have no recollection whatever; and it may reasonably enough be supposed, that it was not till after the acquisition of my head that I became conscious of existence and capable of observation." The first consultation at which the Cane was present, was when its master, Dr. Radcliffe, was sent for, in the autumn of 1689, by the king, William the Third, then living at Kensington House. "We were ushered in, through a suite of several rooms, plainly but handsomely furnished, by Simon de Brienne; and it seemed to me that the Doctor assumed a more lofty air, and walked with a firmer step, and I was conscious of a

gentle pressure of his hand as he stopped and gazed for a moment on the likeness of the founder of the College of Physicians, Dr. Linacre, painted by Holbein, which was hanging in one of the rooms, among royal portraits of the Henrys, and several other of the kings and queens of England and Scotland.

"On entering the sick chamber, which was a small cabinet in the south-east angle of the building, called the Writing Closet, a person of grave and solemn aspect, apparently of about forty years of age, of a thin and weak body, brown hair, and of middle stature, was seen sitting in an arm-chair, and breathing with great difficulty. The naturally serious character of the king (for it was his majesty, William the Third), was rendered more melancholy by the distressing symptoms of asthma, the consequence of the dregs of the small-pox, that had fallen on his lungs." Dr. Radcliffe was not inclined to play the courtier on the occasion, and he addressed his royal patient in the following terms: "May it please your majesty, I must be plain with you, sir; your case is one of danger, no doubt, but if you will adhere to my prescriptions, I will engage to do you good. The rheum is dripping on your lungs, and will be of fatal consequence to you, unless it be otherwise diverted." The insinuation in the last remark was not complimentary to the king's body physicians, Bidloo and Laurence, nor was it in good taste nor conformable with good ethics. The indication to be fulfilled was to procure a flow of saliva, but by what means we are not informed. This, however, having been obtained, the king was entirely relieved, and "a few months afterwards he fought the battle of the Boyne."

Before leaving the palace, Dr. Radcliffe waited upon her majesty the queen, whose affability and cultivated mind are deservedly praised on the occasion. This estimable lady died five years afterwards of the small-pox—an incident which, by reminding us of the protection from this fatal and loathsome disease, afforded by vaccination, to both king and peasant, ought to make us proud of a profession which numbers a Jenner in its ranks. The death of his wife was keenly felt by the generally impassive king. Radcliffe, in a subsequent year, 1697, after the treaty of Ryswick, on being summoned to the royal presence, expressed himself with startling bluntness, by telling his patient that he must not be buoyed up with hopes that his malady would soon be driven away. "Your juices are all vitiated, your whole mass of blood corrupted, and the nutriment for the most part turned to water; but," added the Doctor, "if your majesty will forbear making long visits to the Earl of Bradford (where, to tell the truth, the king was wont to drink very hard), I'll engage to make you live three or four years longer; but beyond that time no physic can protract your majesty's existence." After an interval of three years, the king, while hunting, fell from his horse and broke his right clavicle, near the acromion. "This occurred in the neighborhood of Hampton court; but the French surgeon Ronjat was at hand, and soon reduced the fracture. But when he wanted to bleed his majesty, a new obsta-

cle arose, for it was necessary not only to have the sanction of some one of the court physicians, but also the authority of the privy council for the performance of this operation." Disregarding the recommendation of his professional advisers, that he should keep perfectly quiet, the king insisted on returning to Kensington; but on arriving there a new difficulty occurred, showing that royalty enjoys no special privileges over the commonalty, in exemption from the annoyances growing out of differences between doctors, on the score of diagnosis and of medical etiquette. A discussion arose between Bidloo and the surgeon, as to whether there had really been any fracture or not. "Ronjat strongly maintained the affirmative, the Dutch doctor as stoutly denied it. The point was at length settled, when a new difference of opinion occurred as to the mode of applying the bandages. Bidloo wished himself to apply them, but the surgeon said no. 'You are here either in the character of a physician or in that of a surgeon; if the former, you have nothing to do with bandages; if the latter, *c'est moi qui suis le premier chirurgeon du Roi.*' After the death of the king, a paper war took place, and the various arguments and statements advanced by each party were frequently mentioned in societies where I was present, for luckily my master had no share in these disputes." We pass over the remains of this digression in which the character of King William is sketched, and an incident related of his eating up all the green peas "then newly come in, without even once offering this rarity to his royal consort, or guest," her sister, the Princess Anne, afterwards queen.

To return to the eminent bearer of the gold-headed cane, Dr. Radcliffe, who was sorely tried in his first courtship and betrothal. The lady was an only child, rich, "and with a tolerable share of personal charms." "Matters seemed to proceed prosperously, and everything promised a consummation of my master's happiness; when, one evening, he returned late to his home, obviously much discomposed." One may well imagine his mortification, when we learn its cause, which was no less than a discovery that his betrothed had given her affections and her person to another man, of which fact she began to show proof beyond dispute. Well might the Doctor exclaim to himself: "Mrs. Mary is a very deserving gentlewomen, no doubt; but her father must pardon me if I think her by no means fit to be my wife, since she is or ought to be another man's already!" An occurrence of this nature was not adapted to the removal of Radcliffe's aversion to matrimony, although, later in life, at the maturer age of sixty, he did a wooing go. He is described as having an elevated forehead, hazel eyes, cheeks telling of the good cheer of former days; if anything, a little too ruddy; a double chin, a well-formed nose, and a mouth round which generally played an agreeable smile. Fortunately for literature and science, toward the advancement of which he left such noble legacies, the lady did not smile on him. "Suffice it to say," says our gold-headed biographer, "he was lampooned, proved unfortunate in his suit, and was styled by the wicked wits of the

day, 'the mourning Esculapius,' 'the languishing, hopeless lover of the divine Hebe, the emblem of youth and beauty.'" Prince Eugene, the friend of Marlborough, when on a visit to London, dined with Radcliffe, who determined that there should be "no ragouts, no kickshaws of France," but treating his guest as a soldier, he had his "table covered with barons of beef, jiggets of mutton, and legs of pork." A portrait of the Prince is drawn on the occasion. Reference is made here, for the first time, to Dr. Mead, who is introduced in the following dialogue. "He lived then in Austin Friars, and we found him, one morning, in his library reading Hippocrates.

Radcliffe (taking up the volume of the venerable father of physic), 'What! my young friend, do you read Hippocrates in the original? Well, take my word for it, when I am dead you will occupy the throne of physic in this great town.'

"*Mead.* 'No, sir; when you are gone, your empire, like Alexander's, will be divided among many successors.'" Mead had already written his treatise on Poison. Many rooms of his small house were filled with books, and the two doctors indulged in a long chat. Mead was very lively and entertaining, related several anecdotes of things which he had seen abroad; and described with great animation his joy in finding the *Tabula Isiaca*, in a lumber-room in Florence. "Upon this subject, my master asked many questions, and appeared much struck with the advantage of foreign travel to a physician."

Radcliffe encountered much ill-deserved odium for not joining Mead and the household physicians in visiting Queen Anne, in the last days of her fatal illness; and the death of the sovereign was laid to him. He was, however, unable to attend, being himself confined to his country-house, at Cashalton, in Surrey, by the gout, which had seized on his head and stomach. Soon after this time, as we read in the reminiscences of the Gold-headed Cane, he invited Mead to dine with him, and, after declaring his intention to withdraw himself from practice, he handed over to the latter the mute but valued companion in his daily rounds, and in a measure the medical sceptre itself. He gave, at the same time, a short sketch of his professional life. "My books," he says, "have always been few, though well chosen. When I was at the University, a few vials, a skeleton, and an herbal, chiefly formed my library." "I have always endeavored to discountenance the attempts of quacks and intermeddlers in physic, and by the help of Providence I have succeeded most wonderfully." He refers to his services at court, and the requital by the King (William), who, on one occasion, ordered him five hundred guineas (upwards of $2,500) out of the privy purse, for the cures of Bentinck and Zulestein. By attendance on his majesty, Radcliffe "gained, one year with another, more than six hundred pounds ($3,000) per annum." Dr. Gibbons was a lucky man in being the neighbor of Dr. Radcliffe, whose overflow of business, to which he was unable to attend, brought the former a thousand pounds a year. Speaking of his

failing health, and the short time he has to live, the retiring chief says: "The time is, I am afraid, barely sufficient to repent me of the idle hours which I have spent in riotous living; for I now feel, in the pain which afflicts my nerves, that I am a martyr to excess, and am afraid that I have been an abettor and encourager of intemperance in others."

Dr. Radcliffe died November 1st, 1714. His eulogy may be written in a few lines. The figures in it are not those of rhetoric, nor of poetry; but they carry with them a fullness of thought, a farsightedness, a force, and an animation, more convincing and more enduring in their effects than the finest prize poem or oration. They have elevated science, expanded literature, imparted new hopes to the desponding, raised the sick and the infirm from the bed of suffering, and snatched many from the grasp of death itself. Radcliffe wrought all these wonders by his last will and testament. He left his Yorksire estate to the Master and Fellows of University College, Oxford, forever, in trust for the foundation of two traveling fellowships, the overplus to be paid to them for the purposes of advowsons for the members of said college.

Five thousand pounds for the enlargement of the building of University College, where he himself had been educated.

Forty thousand pounds ($200,000) for the building of a Library at Oxford.

Five hundred pounds yearly forever, toward mending the diet of St. Bartholomew's Hospital.

After the payment of these bequests, and some legacies to various individuals mentioned in the will, he gave to his executors in trust, all his estates, in four counties, to be applied to such charitable purposes as they in their discretion should think best; but no part thereof to their own use or benefit. The result of this last bequest is seen in the Observatory and Public Infirmary at Oxford, both of which were erected out of the funds of Dr. Radcliffe's estate by the trustees of his will. The Radcliffe Library, which is, perhaps, the most beautiful building in Oxford, was finished in 1749. It has been appropriated by a resolution of the trustees to the reception of books on medicine and natural history. The streams of benevolence still flow in other and smaller channels from the sources kept open by the faithful and enlightened guardians of the Radcliffe estate-funds, in the exercise of the discretionary power with which they are intrusted.

Unsuccessful attempts to produce Variola in the Cow, by Inoculating with the Virus of true Variola. Perfect success on using the ordinary Vaccine Virus. By EPHRAIM CUTTER, M. D., Woburn, Mass.

Acting upon the commonly received opinion both of the public and the profession—namely, that cow-pox is small-pox modified and mitigated by a transmission through the system of the cow—it would be natural for any physician to expect to procure pure primary vaccine virus by simply introducing into the system of the cow the virus of variola from the human subject.

It was under this conviction that a series of experiments were conducted upon about fifty kine. It is proposed to give an account of the same in the present paper.

Experiment 1.—Nov. 26th, 1859. Inoculated four young kine with variola-virus taken on November 19th, from one of my own patients, at about the eighth day of the eruption. Punctures were made with a lancet upon the hairless skin beneath the tail and near the vulva. The virus was introduced upon quills and covered with isinglass plaster, as in the ordinary mode of vaccinating the human subject. At the expiration of a week, no effect like vaccination was produced. In fact, there seemed to be nothing more than a moderate inflammation, just such as would result from a non-specific puncture.

Experiment 2.—Dec. 27th. With variolus virus taken on the eighth day (Dec. 22d) of the eruption, by Dr. Luther Parks, Jr., of Boston, Dr. Alonzo Chapin, of Winchester, at my request, inoculated five kine. The writer inoculated seven, including steers and heifers.

Punctures were made with a lancet, near the vulva or anus, and upon the teats. The quills, charged with the virus, were introduced, allowed to remain a few minutes, and then suffered to drop out. The operations were conducted with the greatest care, so that there should be no mistake. About five quills were used upon each animal in this as in all the other experiments. On the 31st of December a few of the spots presented to the feel a round and flat hardness, about helf an inch in diameter. One spot had a central depression. This promised so much that it was very confidently expected that vaccine virus would be obtained. But the hope was illusory, for the spot did not pass through the normal stages of a vaccine pustule. On the contrary, it remained the same for more than a week, and then faded away. It was suggested by Dr. Chapin that the virus might possibly have been taken from a varioloid patient, (it sometimes being very difficult to distinguish between them,) and that thus the experiments proved nugatory. Subsequent experience, however, has not borne out the supposition.

Experiment 3.—Jan. 6th, 1860. Visited a patient of Dr. Toothaker of Wilmington, sick with severe variola, and charged quills with matter. The eruption was at the seventh day. Inoculated

seven kine with this matter, January 6th, 1860. In these cases the cuticle was abraded by scratches, made with a lancet, at right angles to each other, until the serum of the blood began to escape. The charged quill points were then rubbed upon the abrasions for a moment or two. No satisfactory results. To be sure, pustules, or something that looked like pustules, were obtained. They were umbilicated, and some of them hard to the feel, but no lymph could be got.

Experiment 4.—Procured some quills charged with variolous virus, from Dr. R. L. Hodgdon, of West Cambridge, on January 6th, and on January 7th, inoculated three young kine with the same. The mode was the same as in experiment 3d. No satisfactory result.

Experiment 5.—Jan. 13th. Visited, with Dr. Drew, of Woburn, a small-pox patient under his care, and charged some quills in the usual way. Besides, I charged some cotton threads, by rupturing pustules and imbuing in the lymph the threads for the distance of half an inch or more at their middle part. Within an hour of the procuring of this virus, the quills were inserted into several cattle by the usual punctures with the lancet. The threads were introduced beneath the skin by means of a needle. They were then drawn through to the point charged with the virus, and with this engaged under the cutis, the ends were tied, and the seton thus formed left in. The threads remained in for three days, Inflammatory action ensued. There was swelling, with soreness in the vicinity of the punctures. Upon removing the threads, however, these symptoms subsided. No normal pustule was produced. This essay was deemed almost an "experimentum crucis."

Experiment 6.—Jan. 18th. Went to Lexington and took quills and threads from a small-pox patient of Dr. Currier, in the same manner as was practised in experiment 5th. These were used in inoculating four cattle on the 20th of January. These essays were without success, although the threads were allowed to remain a week.

Experiment 7.—Jan. 25th. Received by express, from Dr. John A. Lamson, of Boston, some variolous virus from one of the crew of the slave yacht Wanderer. This matter was selected with care, and the case was a well developed one. These quills were used upon four or five cattle.

At the expiration of a week, there was one pustule developed out of the sixteen or twenty punctures. Took what seemed to be lymph from this one pustule, and tested it, without success, upon another cow.

It is natural to expect, that after so many careful experiments, conducted without success, the experimenter should begin to doubt. I questioned my ability to inoculate; but of this I was not convinced, as I had successfully vaccinated a considerable number of human subjects during my practice of medicine. Besides, I was told by some, who had tried the same experiments without suc-

cess, that it could not be done; that cow-pox must be found in a natural condition.

About this time, Dr. Currier, of Lexington, in conversation with my father, Dr. B. Cutter, stated that within the past ten years he had seen some cases of the cow-pox, occurring in the natural way upon the cow; and he further expressed his belief that such cases must exist in our vicinity at the present time. We should look for them in young cows, just after their second calving, and for the locality of the eruption upon the udder, between the hind teats. One case he mentioned as having about one hundred pock upon a remarkably clear udder. He took a large number of quills from them, and vaccinated three persons with them, viz: himself and two "Irish" infants. He did not succeed in his own case, but the children "took" severely. The remainder of the quills were mislaid, and he lost the opportunity of any further trials.

I was led to examine quite a number of cattle, in different localities, to find this disease in the natural state. I was incidentally surprised to find that a majority of the cattle examined had upon the teats and udder a considerable variety of pustular and horny skin diseases, so that if it is thought (and such is the opinion of the public, I believe) that *purer virus* can be got from the cow than from the human subject, it is an easy matter to explode this idle theory. While conducting experiment 7th, I found one cow with the hinder part of the udder covered with non-umbilicated pustules of the size and feel of a normal vaccine pustule.

Experiment 8.—I took the virus from the most developed of these pustules, and tried it on other cows. No infection followed, thus proving (if the operation was properly performed) that this was not the true vaccine pustule.

Experiment 9.—A repetition of experiment 8th, the matter being taken from a similar pustule near the vulva of another cow, and inserted into another animal. No infection resulted.

Experiment 10.—Still another cow was found with a disease upon the udder, simulating the natural disease. This ran its course in about a fortnight. There were pustules, non-umbilicated, full of white lymph. Vaccination with this lymph upon quills was tried upon another cow, and about a week later some of the crusts were rubbed up with water to the consistency of pus, and then pricked into crucial abrasions of the cuticle of a two-days'-old calf, by Dr. Chapin, and of a cow, by myself. These vaccinations have not yet had time to develop themselves. If they do not take, should we not be justified in calling these cases the spurious cow-pox referred to by Jenner?

Experiment 11.—Jan. 20th, 1860. Vaccinated four kine with ordinary vaccine, such as I was using in vaccinating the human subject.

Jan. 24th.—The spots all look as if taking.

Jan. 26th.—On two of the four kine, umbilicated postules, having, in one instance, a whitish summit, and in other instances being more swollen, with summits less white.

Jan. 27th.—One of the kine has three spots, half an inch in diameter. Bluish color, well marked. Took a large number of quills, and on the same evening sent specimens to the members of the Middlesex East Society, and to other physicians who had assisted in procuring variolous matter for the purpose of experiment.

Jan. 28th.—Dr. Chapin visited the animals. He was assured of the abnormal characteristics of the *quasi* pustules procured by inoculation, and was satisfied with the normal appearance of the pustules produced by the vaccination.

Experiment 12.—Jan. 23d, 1860. Vaccinated two cows with vaccine virus from a child, on the seton plan. Did not take. Failure probably due to the imperfect moistening of the threads.

Experiment 13.—Jan. 24th, 1860. Vaccinated, on the seton plan, four kine, with virus received by mail from Dr. J. D. Mansfield, of South Reading. No other results ensued than what would ordinarily be expected to follow the introduction of an uncharged thread.

Experiment 14.—Jan. 28th. Dr. Chapin vaccinated two kine with the virus he ordinarily uses upon the human subject. Both took well, and a large number of quills were obtained from them, which were used with general success.

Since the last experiments, I have often successfully vaccinated kine, both with the crust and the quill. The pustules have generally been large, and have matured upon the eighth or ninth day after vaccination. They vary in size somewhat, being generally very large, and not small. In some, a characteristic blue color of the pustule and vicinity is observed. This happens especially when the seat of vaccination is upon the part of the labium where the skin emerges into the mucous membrane. No constitutional effects upon the cows have been noticed.

From the account given in a late number of the *Boston Medical and Surgical Journal*, of the experiments of Dr. Martin, of Attleborough, Mass., some years ago, and the most unfortunate results that followed, I tremble at the risks I have been running, for if quills had been obtained they would have been used. It is only an instance of an overruling Providence. However, I am more confirmed, by Dr. Martin's account, in my opinion, derived from the above described experiments, that *vaccinia is not varioloid*, but that it is a *distinct affection*. I cannot explain the experiments of Dr. Adams, of Waltham, Mass., nor of Mr. Ceely, nor of the Russian physician, who profess to have succeeded in inoculating cows, and thus procuring the vaccine disease. I only know that Dr. Chapin and myself did not succeed. If some more successful operator should report and annul my assertions, I shall be very happy, as all I desire is the truth.

Three modes of introducing the variolous matter into kine were used—(inoculation.)

1. By quill and puncture with lancets.

2. By rubbing the charged points of quills upon crucial abrasions of the hairless cutis.

3. By introducing, in the form of setons, threads charged with the variolous virus. This is the easiest and most expeditious way of inoculating or vaccinating kine. There is but one struggle with the animal, and, once in, it stays in.

Vaccination on the cow has been practised in the following ways:

1. By the seton; this was tried twice and was not successful.
2. By quills. These, if fresh, generally succeeded.
3. By pricking into crucial abrasions of the cuticle, with a lancet, portions of a scab dissolved in water, until it is of the consistence of a thick paste. This has been uniformly successful upon man or beast; more so than any other mode I have practised.

I think I am justified in asserting that *any one can procure a vaccine pustule on the cow by vaccination*, as easily as it can be procured upon the human subject. This is the mode in which I obtain "*vaccine virus* from the cow."

The question has been asked whether the virus from the cow, thus obtained, is any better than the ordinary virus in use. To this I would reply, that in my opinion it is no better. A few statistics may throw light upon this. Out of nine primary vaccinations noted, with virus from the cow, six took the first time and three the second. Out of fifty-three secondary vaccinations noted, thirty-nine took the first time, thirteen the second time, and one the third time. One of the primary vaccinations taking on the second trial, occurred in a child half an hour old. One of the secondary vaccinations taking on the first trial, occurred in a lady 91 years old, who had been repeatedly vaccinated unsuccessfully. Another of these was vaccinated during the prodomic symptoms of varioloid, and both vaccinia and varioloid ran through their stages contemporaneously.

On the other hand, the writer vaccinated a child with quills from another infant, and they did not take. On the second trial, quills charged with virus from the cow were used. No effect. On the third trial, the third mode of vaccinating, with a scab from the cow, was employed. No result. On the fourth and final trial, the same mode of vaccinating, with a scab from a *child*, succeeded perfectly.

Some of the secondary vaccinations with virus from the cow procured pustules normal in appearance, and of a large size, despite a good scar of the primary vaccination. Constitutional effects have been produced in some cases. However, equally good pustules and similar constitutional effects have been produced, at the same time, by the ordinary virus in use.

Another thing—the ease with which the vaccine pustule is produced in the cow ought to give the profession confidence *in the matter in general use*. Thus the idea that it has "run out" by successive transmissions through human subjects is not supported by the present experiments.

Again, the idea that the vaccine disease is peculiar only to certain districts of Wales is not founded upon facts, as it has been

repeatedly observed in this country. It seems idle, then, to send to Europe for vaccine virus, when we have it at our very doors.

To conclude: The object of the present paper has been to show that vaccinia is not varioloid, or cow-pox modified small-pox. It has been attempted to prove this by the unsuccessful attempts to produce a normal vaccine pustule by inoculation, *while upon the very same animals, by vaccination with the virus in ordinary use,* the normal vaccine vesicle has been got easily. According to the authorities consulted, it is still a mooted question in regard to the subject in hand. But Von Bibra says distinctly that the cow-pox and the small-pox are two different diseases. The asserted fact that persons who have had the small-pox have been successfully vaccinated, seems also to substantiate our position.—*Boston Medical and Surgical Journal.*

Death in the Nursery.—Very dangerous presents are often made to children. It is the peculiar happiness of juveniles to test, in many homely ways, the strength, flavor, and combustibility of whatever toys are placed in their hands. The tendency to apply the tongue to all painted toys affords a temptation which only the strongest minded children can resist; and licking the face of a favorite doll, or the surface of a painted ball appears to afford pleasure which few can forego. Remembering these infantile idiosyncrasies, kind mammas and generous uncles should endeavor to ascertain that such colored toys as they give are not painted in mineral colors. Very serious accidents—if we mistake not, deaths—have occurred from licking the aerial bladders which were recently so popular in the nursery. Many of them were painted with arsenical pigments. A sad accident, which has just occurred at Lyons, points to another favorite toy as a possible source of the most serious misadventure. The *concierge* of the theatre there had presented a box of paints, as a new year's gift to his son, a boy about ten years of age. The little fellow was highly delighted with his new acquisition, and passed the whole evening in coloring a large portrait of Garibaldi. Most probably he wetted his pencil or his paints with his tongue; for, in the middle of the night he was attacked with a violent colic, and died in a few hours, evidently from poison. In the same way the drastic purgative properties of gamboge are not uncommonly developed to a very unpleasant extent. The unfortunate event above described affords an important caution, which will not, we hope, be lost.—*Lancet.*

PART THIRD.

BIBLIOGRAPHICAL NOTICES AND REVIEWS.

A Practical Treatise on Fractures and Dislocations. By FRANK HASTINGS HAMILTON, M. D., Professor of Surgery in the University of Buffalo, &c. Illustrated with 289 wood cuts. Philadelphia, Blanchard & Lea.

This work, so long looked for, is received. It is a well-executed octavo of 758 pages. The first 484 pages are devoted to fractures, the remaining part to dislocations. While many of the wood cuts are recognized as old acquaintances, a large proportion are entirely new, well executed, and apposite. In a word, except that the binding is of cloth, and rather light, the execution is highly creditable.

We suppose that to engage in any thing like a formal notice of the author's part of the work, is entirely uncalled for, as his learning, his labors, his style, his zealous, yea enthusiastic, devotion to the subject which he discusses, are all matters in regard to which our readers are already informed. We have entertained the highest expectations in regard to this book—they are fully realized. We venture the prophecy that, by common consent, it will be allowed the highest place that any work on the subject of which it treats, has ever occupied. Reader, if, in regard to fractures and dislocations, you would understand your duty, your rights, your immunities, purchase the work, master it, practice its precepts, and, above all, lay claim to its recognition as a standard of practical results. We have no hesitation in saying that its author has done more than any other man, and we can hardly resist saying than *all other men*, to shield members of the profession from the humiliation and disgrace, the professional *damnation*, growing out of a successful prosecution for mal-practice. Our private opinion is, that if the author's labors work such results elsewhere as they have in Ohio, it will not be very long till gentlemen of the bar, and courts of justice, will conclude that the medical profession is too pure to be handled with unholy hands. Within the last five years we have been connected with full twenty cases of prosecution for alleged mal-practice, not as defendant—thanks to the charitable forbearance

of our patients—but as an expert. In most of these, the prosecution grew out of difficulties relating to fractures and dislocations. In *not one of them was a single farthing of damages recovered*, results that are largely attributable to the standard of attainable success provided the profession, by the author of this book, in his reports to the American Medical Association.

H.

A Medico-Legal Treatise on Mal-Practice and Medical Evidence, Comprising the Elements of Medical Jurisprudence. By JOHN ELWELL, M. D., Member of the Cleveland Bar. New York, John S. Voorhies. Cleveland, O., Alfred Elwell & Co. 1860.

This is the title of a work just issued, and already highly commended by the medical press. It is an octavo of 588 pages. It is a creditably executed volume in most respects. The copy before us is done up in law binding, and consequently does not match well in a medical library.

The author studied Medicine and practiced for a number of years. He has also devoted a corresponding period to the study and practice of Law. These facts, so far, designate him as in a favorable position for such an undertaking.

For years we have felt the want of such a work, and have heard the deficiency deplored by numerous gentlemen of eminent abilities, in the legal as well as the medical profession. Several years since, and during a number of successive years, we received letters from Dr. Stephen Smith, at that time one of the editors of the New York Journal of Medicine, asking co-operation in collecting materials for a work on mal-practice. The work, too, was announced, once or more, as in course of preparation. From having heard nothing of it for a long time, we suppose that the very laudable undertaking was abandoned.

Accordingly, we were much gratified on learning, as we did for the first a year or two since, that a gentleman supposed to be eminently fitted for it, had espoused the undertaking with a zeal which gave promise of an early completion. All our expectations, as to the prompt appearance of the work, are realized—the work is before us.

In the outset we are disappointed as to its scope. We had expected to find a large volume, plethoric with information on the hated subject of mal-practice, but, on a very superficial examination, we found it tailing off with a Part Second, on the general and rather hackneyed subject of Medical Evidence; and, after the fashion of a well-known marsupial quadruped, the tail end of it proved to be the big one. This latter part of the work, including a little more than 300 pages of well-leaded small pica, seems to cover a large part of the entire scope of the great subject of Medical Jurisprudence, including Evidence in General, Circumstantial Evidence, Experts, Professional Opinions, History of Medical Evidence, The Importance of Medical Evidence, Duties and Responsibilities of Medical Witnesses, Privileged Communications, Medical Books as Evidence, Insanity, Position of the Courts upon Insanity, Its Legal Relations, Partial Insanity, Delusion, Moral Insanity, Opinions of Laymen as evidence, What Mental Incapacity Invalidates a Will, General Principles and Observations on Poisons, Arsenic, Adjudicated Cases of Poisoning by Arsenic, Poisoning by Strychnia, Adjudicated Cases of, The Effect of Wounds in Producing Deaths, Rape, and Coroner's Office and Inquests.

The part of the work, however, in which we are more particularly interested, is that which relates to Mal-Practice. To this, ostensibly, 260 pages are devoted. A chapter of 30 pages is devoted to Druggists, Their Responsibilities, Leading Adjudicated Cases. This does not properly belong to the subject of Mal-practice. Another chapter of 18 pages on Abortion, Fœticide, belongs rather to the general subject of Medical or Criminal Jurisprudence. The first 54 pages are devoted to general considerations, such as General Principles of Law Applicable to Medical Men, The Inherent Elementary Difficulties of Medicine and Surgery, What definite Knowledge is Possible and Essential to the Surgeon, &c., &c. These, regarded as only indirectly related to the subject, and quite as appropriate in a work devoted to general Medical Jurisprudence, leave 158 pages devoted directly and especially to the subject of Mal-practice.

Now, while, to the fullest extent, we concede to the author the right and privilege of gratifying his own taste, and suiting his own convenience, as to the size and scope of his book, yet, under all the circumstances, whether it is *our* right or *our* privilege, or not, we

cannot but feel and express disappointment. The work has been extensively announced as one on Mal-practice. A part of it is devoted to that subject. The part so devoted, however, is but a small proportion of the whole. We expected to find a rich and varied repository of adjudicated cases. To our surprise, the whole collection, whether in reference to numbers, variety, or interest, does not amount to *half* as much as has transpired in the limited circle of our personal experience as an expert, within the period of five years.

We have carefully read most of the chapters devoted especially to the subject of Mal-practice, but, while it would be a most agreeable privilege to do so, we are not prepared to commend even this part of the book. Other duties, we frankly confess, have not allowed us to bestow the attention upon it that we desire to give. Accordingly, we are not without hope that unfavorable impressions, made by our imperfect study of it, are unjust.

So far as the legal character of the work is concerned, we cheerfully confess our incompetency to judge of its merits. In all that we have said, accordingly, and in all that we may say hereafter, we have reference only to it in its surgical aspect, and its general scope and character.

By way of exemplifying the style and learning of the author, his skill and ability in discussing surgical topics, and the degree of care bestowed upon the preparation of the work, we propose for the present, to confine attention to Chapter VII, devoted to Malpractice in Dislocations.

This chapter commences with some wholesome suggestions in regard to the necessity of seeing cases of dislocation at the earliest possible moment—the occasional difficulty of diagnosing—the necessity of adequate anatomical knowledge, &c. His estimate of the value of anatomical knowledge is indicated by the following quotation: "Without a well defined idea of the form of the extremities of the bones, their mode of articulation, the ligaments by which they are connected and supported, the direction in which their most powerful muscles act; the man who attempts to adjust a dislocation, or a supposed one, works in the dark. When all these normal conditions are well fixed in the mind, any departure from it is at once detected, and the proper remedy applied."

Now while we unhesitatingly assent to all that he says as to the indispensableness of a ready and thorough knowledge of all the structures about the articulation, and without making further

mention of the glaring specimen of false syntax, contained in the last sentence, we are far from assenting to his view as to the facility with which dislocations are detected, as indicated in the closing part of the quotation. Both the diagnosis, and the reduction of dislocations, are frequently difficult in the extreme. If the articulations were subject to no injuries except dislocations, and the surgeon could select lean patients, prescribe the manner of causation, and see the case at once, it would, perhaps, be a thousandth part as easy for the surgeon, in actual cases, to "detect the departure," as for a man who never had a case, to do it in his study. But, we repeat, that frequently, in the diversities of circumstances in which these injuries occur, one of the most difficult things that a thorough anatomist and pathologist can undertake, is the recognition and reduction of a dislocation.

Accordingly, situated as country physicians are—debarred, to a great extent, from the means of studying pathology, being rarely allowed even the privilege of a post mortem examination—statutorily hindered from dissections, the only possible means of either acquiring or retaining the requisite familiarity with anatomy—serving communities which would subject them to professional martyrdom if they should make the attempt—situated, in every particular, so that it is out of the question for them to see more than a very limited number of cases in a life time—it is no matter of surprise that every physician of the country is not an accomplished surgeon, or that a great many dislocations, of small and large articulations, are neither recognized nor reduced. But we are digresssing.

The following consecutive paragraphs, found on page 107—9, are introduced for the purpose of exemplifying a kind of obscurity and want of accuracy, characteristic of the author's manner of handling surgical topics:

"A principal cause of difficulty, in the reduction of a dislocation of long standing, arises from the increasing *inorganic* contraction of the muscles engaged; also, the *new fibrous* adhesions which the new bone acquires; but this difficulty of reduction does not increase by lapse of time as rapidly as does that of *diagnosis*. The tension of the muscles is not supposed to increase after a few days, while the passive contractions of the muscles will demand an increasing force of extension by the mechanical agents employed; the progress of this additional resistance is slow, and will not, for many

days, present any serious obstacles to the elongation of the limb by pulleys or similar agents.*

"The ablest surgeons differ as to the length of time, after which a surgeon is no longer to be justified in trying to reduce a dislocation by the application of extension. Sir A. Cooper objects to any efforts being made to reduce a dislocation of long standing; and this time he places at two months for the humerus, and three for the femur; while Mr. Skey is not willing to limit the time *definite*, within nine months or a year, when all effort is to be abandoned. He claims to have reduced a humerus after three months.†

"In dislocations of long standing the cavity in which the head of the bone played becomes filled with new growth, the cartilages thicken, and the head of the bone becomes fastened in its new position, by fibrous growths, where it rests, in time, almost as firmly as in its original position.

"Where there is a mistake in the diagnosis, and extension is applied to a fractured limb, instead of a dislocated one, for obvious reasons the result may be serious to the patient and dishonorable to the profession, as well as rendering the operator making the mistake liable.

"An ignorant surgeon *will* sometimes apply the bandages around the elbow joint, to which he applies his extension in such a way that *it slips*, and *defeats* the whole proceeding, or he will bind the elbow to a right angle, in order to get an immovable joint, giving unnecessary pain, and throwing the whole extending force on the forearm. This is an inexcusable error; so, of the lower extremities, the same principles apply. Again, the extending force being applied to the elbow, instead of the wrist, the bone is, in fact, being drawn up by the pectoralis major and latissimus dorsi, while, through the medium of the *triceps extensor muscle, is being drawn down*, from which, the whole object is to separate and dislodge the head of the humerus. Both the scapula and the pelvis should remain as far as possible *dormant*, when extension is applied for the reduction of a dislocated femur or humerus.

"It is by reason of the neglect of simple points like these, that the profession, as well as the patient, often *suffer;* and because this is so, and the blameworthy are sometimes overtaken and punished, the idea becomes prevalent that whenever there is a failure to reduce the dislocation, the surgeon is to blame, let the circum-

*Skey's Operative Surgery, 73. †Medical Times, London, for June, 1848.

stances attending the case be what they may, and that he should respond in damages.

"All the medical profession asks, in respect to these cases, is, that the courts shall carefully draw the line between those cases where there is really ignorance, and those where the *impossibilities are so great* they can not be overcome by skill; and this the courts will do, if the truth can be properly brought before them."

The italics are ours, and are used to call attention to some of the striking inaccuracies with which these paragraphs abound, including a most unfortunate number of instances of false syntax. "Increasing *inorganic* contraction of the muscles." "New fibrous adhesions." "This difficulty of reduction" in a case "of long standing" "does not increase by lapse of time as rapidly as does that of *diagnosis*," which gradually becomes less and less difficult. "Mr. Skey is not willing to limit the time *definite*." "An ignorant surgeon *will* sometimes apply the bandages in such a way that *it slips* and *defeats* the whole proceeding." We are entirely unable to comprehend the agency attributed to the pectoralis major, latissimus dorsi, and triceps extensor, in the fifth paragraph. An anatomist can readily comprehend that they may have important agencies in some cases; but as to the cases in which these agencies are exerted, the surgeon, seeking light, is left in total darkness. "The profession as well as the patient often *suffer*." "Where the impossibilities are so great." "Through the medium of the triceps extensor, is being drawn," &c., &c., &c.

These are only a part of the inelegancies, obscurities and inaccuracies, contained in this quotation. A careful analysis, by the reader, will detect a number of others.

We regret to be impressed as we are in regard to the character of this production. A work from the hand of a master in Surgery, as well as Law, is greatly needed. We deeply regret our not realizing our hopes in reference to it. It is not characterized by the requisite familiarity with surgical science. Hence its inaccuracies. The author's style in handling surgical topics, strikes us as characterized, in a high degree, by obscurity. The work has evidently been very hastily prepared, and this we are disposed to adopt as the explanation of its ubiquitously present bad English.

H.

Dental Anomalies and their Influence upon the Production of Diseases of the Maxillary Bones. By. A. M. FORGET, M.D., C.L. D. MEMOIR crowned by the Academy of Sciences. Translated from the French. Philadelphia: Jones & White, 1860.

This is a beautifully printed pamphlet of 34 pages, with 5 fine illustrative plates. The work is intended to show the anatomical and physiological causes that predispose the jaws to organic lesions, requiring the intervention of art. The publishers propose to send it to purchasers, free of postage, on the receipt of forty cents in postage stamps. H.

Elements of Medical Jurisprudence. By THEODRIC ROMEYN BECK, M.D., L.L.D., and JOHN B. BECK, M.D. Eleventh Edition, with Notes by an association of the friends of Drs. Beck. The whole revised by C. R. GILMAN, M.D., Professor of Medical Jurisprudence in the College of Physicians, New York. Philadelphia: J. B. Lippincott & Co., 1860.

"After the death of Dr. T. Romeyn Beck it was ascertained that he had, with characteristic industry, collected a large amount of matter for a new edition of his treatise on Medical Jurisprudence." This matter was placed in the hands of Professor Gilman, who sought aid from the friends of Dr. Beck. Thus, in the united labors of *nine* gentlemen, of finished scholarship and rare abilities, we have a sufficient guaranty that the former reputation of this great work will be fully sustained. It consists of two magnificent volumes, making an aggregate of near 1,900 pages—prepared in a style eminently creditable to the house from which it emanates.

H.

PART FOURTH.

EDITORIAL AND MISCELLANEOUS.

PUBLICATION OF THE PROCEEDINGS OF THE OHIO STATE MEDICAL SOCIETY.—It has been intimated to us that our suggestions in the last number of the Journal, in regard to the publication of the proceedings of the State Society in the Medical Journals, is impracticable, and otherwise objectionable, on account of its necessarily making invidious distinction, in selecting any one Journal as a medium of publication. It is very easy to see that difficulties might grow out of selecting one, to the exclusion of others, but we see no necessity for pursuing that course—no reason why all may not be put upon the same basis.

1. There are four Journals in the State that are of such size and character, as that it is supposed each would gladly publish the authentic and official minutes, in their earliest issues, if they are furnished, without charge.

2. A gentleman presents a paper or report which the society deems worthy of publication. The society manifests its approval by a vote, requesting him to submit it for that purpose, allowing him to exercise his choice, or make his own private arrangements, as to the Journal or Journals in which it shall be published, provided, that it shall be done without expense to the society.

3. Occasionally a report or paper is too lengthy for publication in the Journals. The society should make it a rule to publish, on its own account, either separately, or with others issuing from the same meeting, all meritorious papers exceeding 30 pages of printed matter, provided they were declined by the Journals.

4. If a paper of less length than this, although requested for publication by the society, is declined by the Journals, it ought to be pretty satisfactory proof that it is not worth publishing.

Now it seems to us that while the present mode of publication amounts to a mere *lingering death*, and *indecent burial*—a kind of authoritative *suppression* of the papers and proceedings of the society—the adoption of this plan would secure their *prompt* and

extensive publication: while the present mode of procedure tattoos the proceedings in ragged habilaments that are calculated to make its warmest and most charitable friends ashamed of it, this method would dress it up and send it abroad in an intelligible and decent garb, such as is worn by the Journals of the State. In this way the sayings and doings of the society would be carried, not to 150 physicians, as at present, but to several thousands, in and out of the State; to all the Medical Editors in America, and many of those of Europe. In addition to this it would save the society, say $150 a year—a sum sufficient to make a very fair prize fund for meritorious essays, and at the same time encourage our medical Journals, the most creditable and vigorous institutions the profession of Ohio boasts of.

H.

THE USE OF CHLOROFORM IN MAKING ENTOMOLOGICAL COLLECTIONS.—We have had considerable experience in making Entomological collections, and have never found any method of killing specimens to be compared with that by the use of chloroform. Take a small sponge wetted with chloroform and put it in a well-stoppered bottle. An insect dropped into this bottle is quieted instantaneously. We have kept them over night, in these circumstances, when, on removing the stopper, signs of life became apparent immediately. To insure death, accordingly, they should be kept bottled for as much as twenty-four hours, at least. In this way the most delicate Arachnidan or Lepidopteran may be killed without the loss or soiling of feather.

H.

THE APPROACHING MEETING OF THE OHIO STATE MEDICAL SOCIETY.—Our readers are, no doubt, already aware that the next meeting of this important organization will occur at the Ohio White Sulphur Springs, a week later than usual, on account of the change in the time of meeting of the American Medical Association. The last meeting appointed 15 special committees, devolving special duties upon each. As the chairmanships of these committees, are

in many instances made at the request of the chairmen themselves, it is to be hoped that such committees will not do themselves and the society the injustice, and incur the disgrace of failing, in these circumstances, to engage in their work and make their report. If we mistake not, the public sentiment of the society is such as that self-constituted committees, of the dronish species, will be despatched with but very little ceremony. We give below these special committees in full:

SURGERY.—A. H. Baker, T. Garlick and A. Carey.

OBSTETRICS.—M. B. Wright, J. H. Rodgers and S. P. Hunt.

LIBRARY.—J. W. Hamilton, J. Helmick and J. C. Thompson.

AMENDMENTS TO REGISTRATION LAW.—John Dawson, S. M. Smith and J. L. Vattier.

ANESTHETICS.—S. Loving.

MEDICAL LITERATURE.—E. B. Stevens, H. J. Donaho and J. L. Drake.

OBITUARIES.—C. P. Landon, C. C. Hildreth and J. V. Schertzer.

CANNABIS INDICA.—R. R. McMeans, W. P. Kincaid and C. P. Landon.

URINARY DISEASES.—W. J. Scott, R. G. McLean and E. Sinnett.

UTERINE DISEASES.—S. M. Smith.

PRACTICE.—W. J. Scott, J. B. Potter and M. Thompson.

PRIZE ESSAYS.—S. G. Armor, C. McDermont and W. H. Lamme.

OVARIAN DISEASE.—J. W. Hamilton, W. H. Mussey and G. V. Dorsey.

DISEASES OF THE EYE.—A. Metz.

NEW REMEDIES.—J. J. Delamater.

TYPHOID FEVER.—J. Pomerene.

H.

CINCINNATI, Feb. 11th, 1860.

Editors of Ohio Med. and Surg. Journal:

I wish to make through your journal the following announcement to the Medical Profession of the State:

The 15th Annual Session of the OHIO STATE MEDICAL SOCIETY

will be held at the OHIO WHITE SULPHUR SPRINGS, on the *second Tuesday* of June, 1860.

The change in the day of meeting was made from the fact that the American Medical Association will meet this year on the *first Tuesday* of June, in New Haven, Connecticut.

W. W. DAWSON, M.D.,
Secretary of O. S. M. Society.

APPROACHING MEETING OF THE OHIO STATE MEDICAL SOCIETY.—The following note from A. Wilson, Esq., proprietor of the Ohio White Sulphur Springs, speaks for itself. Judging the future by the past, we feel fully warranted in assuring physicians that Mr. W. will do all he promises—*and more too.* H.

CINCINNATI, April 13th, 1860.

Prof. J. W. HAMILTON,
Editor Ohio Med. and Surg. Jour., Columbus, O.:

DEAR SIR:—I am making the most liberal arrangements for the accommodation of the Ohio State Medical Society at the Ohio White White Sulphur Springs. I would be greatly pleased to see, not only the medical gentlemen of the State there, but their wives and daughters also. Our arrangements are such as to insure them a delightful visit.

If you can, with propriety, call attention to this matter in your Medical Journal, you will place me under renewed obligations.

Very respectfully,
AND. WILSON, JR.,
Proprietor Ohio White Sulphur Springs.

DR. IGNATIUS LANGER AGAIN.—Since our last issue we have paid some attention to the tone of the medical press of the country in reference to the expulsion of this gentleman from the Scott County, Iowa, Medical Society. It is very evident that a very general sympathy for that gentleman has been aroused. Incidental to the affair, too, his history has been evolved, and proves to be a very enviable one. We are so strongly impressed that he has been foully dealt with, as to lead us to give, from the abundance

found in our exchanges, and as an act of simple justice to him, the subjoined, in defence. Dr. C. S. Sheldon, now of Springfield, Ill., in a letter to the New York Medical Press, states as follows:

"Having been a member of the Scott County Medical Society from 1857, until my removal to this place in September last, I am acquainted with the origin and history of the matter which led to the transactions of that society in relation to Dr. Langer, now the subject of public controversy. I feel it a duty which I owe to Dr. Langer, as well as to the Profession generally, to state my opinion on one point on which the public have not so full testimony.

"Owing to a multiplicity of duties preparatory to removal, I was unable to be present at the meeting of the Society when the case was first tried, as well as to the probability of my absence at the final trial, I was the more desirous to see the testimony which had been presented to the Committee of Investigation, on which their final action would be based. Such an opportunity was given, and upon examining it, I could find *no evidence* that, in any instance, the accused had ever resorted to any measures to secure patronage which in the least degree violated any rules of etiquette or ethics.

"I had an abundant opportunity of knowing Dr. Langer's bearing towards his fellow-physicians, and his conduct at the bed-side of the sick, in council or otherwise, and I am most happy in being able freely to say, I found him to be one of a generous nature, which ever led him to seek the good of the patient, with a high regard for the dignity of the profession—of liberal views, large experience and skill, characterised by a scrupulous observance of the rules of etiquette and medical ethics, and possessed of a zeal which was ever promoting the highest interest and honor of the profession.

"Now, shall such a one's character or reputation suffer damage without redress?

"The consummation and development of this painful case of narrow minded jealousy I regard as the result of the unwise action (in my opinion) of the National Association, at its last meeting, referring cases of like nature for final settlement, back to the local Societies where they originated, thus cutting off all appeal to that body most capable of rendering an important verdict.

"Could an appeal have been made from the decision of the Scott County Medical Society, in the case of that Society *versus* Dr.

Langer, there would have been less precipitancy in arriving at such summary results.

"I trust Dr. Langer will receive an honorable acquittal, which he *justly deserves*, at the bar of public opinion, if not at the hands of his accusers.

"I write this unknown to Dr. L."

Dr. Brandeis, of Lousville, Ky., in a letter published in the Medical News, makes the following statement:

"MESSRS EDITORS: Finding from several of our medical journals, that Dr. Langer's case gives rise to a display of the most opposite views, as an old school-mate of his, and being thoroughly acquainted with his early career, I consider myself in duty bound to make the following sattement:

"Dr. Langer received his early education in Pesth, the capital of Hungary, and arrived at Vienna in the fall of 1842, where he attended clinical lectures and hospital practice up to 1846. He was at all times a diligent and hard-working student, showing always a particular predilection for surgery, obstetrics and opthalmology. He was always distinguished as one of the first in our class. He graduated in 1845 as Doctor of Medicine and Surgery, and Magister of Obstetrics, and received with the degrees all the honors connected with them. He then left for his native country (Hungary), where he, able as he was, immediately took an eminent stand as a practitioner, till the outbreak of the revolution in 1845, when he received an appointment as a surgeon in the Hungarian army; as such he filled one of the highest offices on the list. The army being defeated in 1850, he was compelled to leave his country, where, though young in years, he was loved by many, and highly esteemed by all who knew him.

"Though Dr. Langer has found some very able defenders, others again, not less able, condemn him. I should feel highly gratified if my humble remarks should serve to create a more favorable opinion in regard to my poor friend, who, from all I can learn, has only practiced in accordance with the precepts inculcated by our former tutors.

"Yours, etc., S. BRANDEIS, M.D."

A Case of Rupture of the Right Auricle of the Heart, in Labor.

By S. HUDSON, of Whittlsey, O.

In the March number of the Ohio Medical Journal of 1860, I noticed an extract from the London Lancet, in which was reported a case, in some respects similar to the following:

Mrs. S. M., aged 22, a primapara, was expecting to be confined. I was called to see her, December 9th, 1859; found her complaining of a severe pain in the left side, over the region of the heart. The pain was severe; she said she could not draw a long breath. I ordered a foot bath, bled her freely, applied sinapisms over the seat of the pain, and gave her an anodyne; after which she appeared quite comfortable until the evening of the 12th, when I was again summoned to see her in haste. I found her in the first stage of labor; her water had escaped, and to all appearance she was doing well. Her pains were regular, though not severe; and, upon examination, the os uteri was dilated to the size of a silver dollar. A loop of the umbilical cord protruded some two inches or more in length; the parts were moist, the pains regular, and everything, as far as related to the mother, promised a speedy and favorable termination. I endeavored to return the funis, within the cavity of the uterus, but did not succeed. I then stepped into an adjoining room, thinking what I had better do in order to save the child; when my attention was quickly called to my patient by her attendants, who said, in great alarm, "Come, Doctor; she has fainted!" I stepped to the bed, and found she had thrown herself forward, so that her head was partially off the bed. I had her immediately placed in the horizontal posture, and felt for her pulse, but it was gone; put my ear to her chest, and her heart had ceased to beat! This was all the work of a moment: with a single gasp she had expired. The pains were not so hard but that she continued to laugh and joke, until the last one, when she said: "My pains are growing harder. Oh, I shall die!" and died. I told the friends that she was dead—probably died from rupture of some important blood-vessel; perhaps an anurism of the aorta.

The next question was, what was to be done with the child? It was struggling for its life. I told the husband, and mother of the lady, that I could save the child, and that I felt it my duty so to do; but in this I was overruled by a number of very officious old ladies, who soon gathered in, and declared it would be more humane

to let the child go with the mother, than to have it brought to the world through such unnatural means as I proposed; and besides, perhaps the mother had only fainted, and might yet come to life. Being without counsel, and not positive of the occasion of her death, I had to yield; though, I confess, with many unpleasant feelings, for I was confident that I might have saved the child, and that it was my duty to do so.

Through the kindness of the friends I was permitted to have an autopsy on the following day. Dr. Smith, and others, assisted. In opening the chest, the first thing to which our attention was directed, was the pericardium; it being filled to its utmost capacity, resembling, in dimensions, a large inflated bladder. From this we took a common sized tin wash-bason full of coagulated blood, and probably a pint or more of serum escaped into the cavity of the chest. The heart was then carefully removed; and upon examination the right auricle was found ruptured near the descending vena cava, its texture being very thin and soft, and easily torn—the rupture being sufficiently large for the passage of my thumb. The child presented nothing abnormal, more than a livid appearance: was a beautiful little girl, and ought to have been saved.

Notes on some of the Chemical Reactions of Atropine. By T. G. Wormley, M.D.

Atropine, as is well known, is the active principle, or alkaloid of *atropa belladonna*, or deadly night-shade. The crystallized alkaloid dissolves in concentrated nitric acid, without any change of color, upon heating the solution, and after cooling, the addition of a drop of chloride of tin solution gives a copious white deposit; without heating, the tin salt produces no change. Concentrated sulphuric acid dissolves it with a very slight yellow color, and the addition of nitrate of potash yields no change.

In the following experiments crystallized atropine was dissolved by the aid of acetic acid:

1. Tannic Acid.

1. $\frac{1}{100}$th grain of atropine, in one grain of water, gives, with tannic acid, an immediate dirty white precipitate, readily soluble in potash.

2. $\frac{1}{1000}$th, an immediate bluish precipitate.
3. $\frac{1}{2000}$th, gives a very good precipitate.
4. $\frac{1}{4000}$th, after several minutes a just perceptible cloudiness.

2. Terchloride of Gold.

1. $\frac{1}{100}$th, gives a copious light yellow precipitate, readily soluble in excess of acetic acid.
2. $\frac{1}{1000}$th, an immediate greenish yellow precipitate.
3. $\frac{1}{2000}$th, gives much the same as 2.
4. $\frac{1}{4000}$th, no indication.

3. Bichloride of Platinum.

1. $\frac{1}{100}$th, gives a pretty good dirty yellow amorphous precipitate.
2. $\frac{1}{200}$th, no indication.

4. Carbazotic Acid.

1. $\frac{1}{100}$th, gives an immediate light yellow amorphous precipitate, which dissolves in a few drops of acetic acid.
2. $\frac{1}{1000}$th, in a few seconds a light greenish precipitate, which, after a little time, is quite copious.
3. $\frac{1}{2000}$th, after several minutes, no satisfactory indication.

5. Iodine in Iodide of Potassium.

1. $\frac{1}{100}$th, gives an immediate copious brownish amorphous precipitate, which completely dissolves in a few drops of a strong solution of potash.
2. $\frac{1}{1000}$th, a good brownish precipitate, insoluble in acetic acid.
3. $\frac{1}{2000}$th, much like 2.
4. $\frac{1}{4000}$th, an abundant red-brown precipitate.
5. $\frac{1}{8000}$th, at first a yellowish, after a little time a very good red-brown precipitate.
6. $\frac{1}{10000}$th, gives a very satisfactory precipitate.
7. $\frac{1}{20000}$th, still perceptible.

6. Bromine in Bromohydric Acid.

1. $\frac{1}{100}$th, gives an immediate copious bright yellow amorphous precipitate, which soon becomes a mass of twig-like crystals. If there be deficiency of reagent used, the precipitate will dissolve, but is reproduced upon the farther addition of reagent. The precipitate is insoluble in potash solution.

2. $\frac{1}{1000}$th, an immediate yellow precipitate, insoluble in acetic acid.

3. $\frac{1}{10000}$th, gives an immediate greenish yellow crystalline precipitate.

4. $\frac{1}{20000}$th, much like 3.

5. $\frac{1}{100000}$th, no satisfactory indication.

The reaction of the above reagent is quite characteristic, it being the only one that will give a distinct crystalline precipitate with atropine; whereas, with most, if not all the other alkaloids, the reagent gives an amorphous deposit.

7. Potash.

1. $\frac{1}{100}$th, gives a good white amorphous precipitate, which readily dissolves in much excess of the reagent.

2. $\frac{1}{500}$th, gives no indication.

Ammonia behaves about the same as potash, however, the precipitate is more soluble in excess of ammonia than in potash.

With a solution, holding 100th of its weight of atropine, neither of the following reagents will give a precipitate: Gallic acid, iodide of potassium, sulphocyanide of potassium, chromate of potash, chloride of mercury, ferro, nor, ferricyanide of potassium, acetate of lead, nor chloride of barium.

Columbus, Ohio, April 16th, 1860.

An Easily Applied Treatment of Short-Sightedness.—Short-sighted persons, in looking at distant objects, usually blink, i. e. bring the upper and under eyelids nearer together, covering a part of the cornea. A finger is applied to the outer commissure of the lids in this position, and they are drawn outward a little. By this procedure the cornea is flattened, and the axis of the eye shortened. In consequence, the object looked at will appear surprisingly distinct in its outlines, often as much so, as if seen through suitable concave glasses. The pressure thus exerted through the lids on the eye must only be slight; when too great, the eye becomes presbyoptic, and vision dulled. Practice soon insures the exercise of the proper degree of pressure. This simple, not painful, and entirely harmless proceeding, is to the short-sighted of the same service as the use of the monocle or single eye-glass. It enables him

to see distant objects sharply defined, to read signs, names of streets, numbers of houses, to recognize actors on the stage, or persons in a large hall, etc. The vast advantage of this "easy method" over concave glasses consists, (besides in being always at hand,) in its having not only palliative, but also curative effects. It has certainly lessened short-sightedness in our own case. The cornea partially regains through the slight but oft repeated pressure on it, the natural retractility, lost through strong pressure from within; its convexity no longer increases, but rather diminishes, as also the antero-posterior axis of the eye. It is not to be overlooked, how very easy of execution this gymnastic eye-exercise is. It subjects the individual to so little inconvenience and interruption of occupation, that it is soon performed from habit, and almost unconsciously.—*Phil. Reporter.*

On the Duration of Life among Medical Men.—From the statistics of over 1000 persons of different occupations, who died within the last 100 or 150 years, at an age of at least 80 years, collected by Faber, and communicated to the *Würtemberg Correspondenzblatt*, we learn that among these long-lived persons, there were:

1. Authors and learned without special profession, 86.
2. Statesmen and diplomatists, 96.
3. Clergymen and theologians of all beliefs, 150.
4. Artists, 167, painters, engravers and sculptors, 72; poets, 42; musicians and composers, 26; actors, dancers and circus riders 9, among whom were Franconi at 98, Noverre 105, and his two sons at 82 and 83.)
5. Military 190, (army 159, navy 31.)
6. Naturalists and physicians, 192; (naturalists and physicians not in practice, 58; practicing physicians 134, of whom there were 3 over 100, 15 between 90 and 100, and 116 between 80 and 90 years old at their death.)

Now, though we do not accord to these statistics completeness in themselves, nor regard them as proper foundation for generalizations, we may surely draw from the above combination of ages the satisfactory result that the duration of life among physicians is by no means as limited as so many authors (*König, Villermé, Deneufville, Hufeland, Escherich, Zeeman, etc., etc.,*) affirm.

SANITARY SCIENCE.—The sanitary condition of the city of New York has for a long time been such as to excite the astonishment and indignation of those who took the slightest interest in the welfare of their fellow beings, and it appears that efforts are at last being made to remedy this growing evil.

In the report of a committee of the State Assembly, we are informed that several attempts have been made to secure some action upon this important matter, but without success until now, and it will appear from the following statements that it is quite time to act. An examination of the sanitary statistics shows that the ratio of mortality to the population is 1 to 36.9 in New York; 1 to 40.2 in Brooklyn; 1 to 48.1 in Boston; 1 to 50.2 in Baltimore; 1 to 52.9 in Providence; and 1 to 63.6 in Philadelphia. If New York had been as healthy as Philadelphia, 9000 persons would have been saved. The causes which produce this excessive mortality affect particularly the young. In Surry, England, ten children in every eighty-six die under the age of one year; in London, one in every five; in New York, ten in every twenty-six, making the mortality of the last place double that of London. This rate is greater than that of any city, large or small, and is mostly owing to the utter neglect of public sanitary measures.

The causes are found both without and within the dwellings of the people, particularly within. The tables of the report exhibit this fact in the most striking manner. Some diseases have increased at an almost incredible rate, particularly cholera infantum and congestion of the brain. Many of the diseases enumerated in the tables referred to are the direct result of deficient ventilation and sunlight, filth of person and domicil, of cellar-dampness and darkness, foul gases, &c. It is said that nearly 200,000 persons in the city live under ground. Although laws have long existed, which might to a certain extent be brought to bear upon this evil, the enforcement of them has for many years been confided to men incompetent to appreciate either their nature or value. From 1804 until 1844, the City Inspector was almost invariably possessed of a medical education. Since that period, the incumbents have invariably been without medical knowledge.

The immense number of poor emigrants from Europe, who crowded into the city, swelled for a time the bills of mortality, but this element cannot explain the progressive increase, which is still so fearfully obvious.

Boston has long afforded a pleasant contrast to New York, and its sanitary condition is confided to the care of competent physicians. Still it is necessary that the people themselves should understand the importance of, and be interested in, the subject of public hygiene. To secure this desirable end, a number of gentlemen met at the house of Josiah Quincy, on the evening of April 7th, to hear the report of a committee previously appointed to draft a constitution for the organization of a sanitary association. The following officers were chosen: *President*, Jacob Bigelow; *Vice Presidents*, John Ware, Prof. W. B. Rogers; *Corresponding Secretary*, G. H. Snelling; *Recording Secretary*, Josiah H. Curtis; *Treasurer*, Otis Clapp; *Directors*, Josiah Quincy, Jr., Dr. Henry G. Clark, Dr. Edward Jarvis, Rev. E. E. Hale, Wm. S. Bullard, Thomas Russell.—*Boston Medical and Surgical Journal.*

Cicatrix-like Streaks on the Skin of Pregnant Women.—Opinions as to the time of appearance, frequency, and other peculiarities, and medico-legal importance of these streaks, are so unsettled and conflicting, that we gladly hail the excellent review of the subject by Crede, of Berlin, one of the editors of the "*Monatsschrift fur Geburtskunde und Frauenkrankheiten.*" We have prepared for our readers the following propositions which he has established (Monatschr., &c., Nov., 1859, p. 323 et seq.):

1. The streaks on the abdomen more or less extensively exist in the great majority of pregnant females. They appear but very seldom, however, during the first half of pregnancy—frequently not until the last month, or the last but one.

2. Soon after delivery they change in appearance, becoming gradually less evident, unless the skin is made tense, but never entirely disappear.

3. In some cases they do not appear during pregnancy, and sometimes no trace of them can be found after repeated pregnancies.

4. Sometimes they appear for the first time at the second or third pregnancy, or else new streaks are added to the old.

5. They make their appearance also, without the existence of pregnancy—in consequence of diseases producing a rapid and considerable extension of the skin (especially in dropsy, therefore).

6. The quite similar streaks on the breasts, and the anterior surface of the thighs, occasionally, also on other parts of the body, as the buttocks, calves of the legs, &c., merit the same attention as those on the abdomen.—L. ELSBURG, M.D., of New York.

PERSULPHATE OF IRON AS A HÆMOSTATIC.—Monsel, of France, first proposed the use of this excellent hæmostatic, and as its use is becoming more general, we give our readers *his* process for its preparation:

"Place in a porcelain capsule 100 grammes of distilled water, and 10 grammes of sulphuric acid; raise the mixture to the boiling point, and then add 50 grammes of protosulphate of iron. After complete solution of the latter, pour, in small quantities, into the boiling liquid 16 grammes of nitric acid at 35 degrees. When the rapid discharge of orange-colored vapors has ceased, add, in portions, 50 grammes of the protosulphate of iron, the solution of which will produce again reddish flames, and will cause the excess of nitric acid to disappear. The volume of the liquid is then raised to 100 grammes, by the aid of distilled water, cooled and filtered."

Monsel suggests that 100 grammes of this solution be treated with a few grammes of linseed oil, and that the mixture be shaken three or four times in twelve hours. There is thus obtained a perfectly neutral solution, having no nitrous odor, and susceptible of preservation for a very long time.

The solution is limpid, of a very dark brownish red, inodorous, and with an extremely astringent, but non-caustic taste. It marks 45 degrees of the *pese-sels*. When concentrated by boiling, it assumes the consistence of honey, and if, in that condition, it is spread in thin layers on plates of glass, and dried at a temperature of 100 degrees Fahrenheit, it can be obtained in reddish-yellow scales, transparent, like those of the citrate and tartrate of iron.—*Journal de Phar. et de Chim.*

DR. HORACE GREEN has resigned the presidency of the New York Medical College, and Drs. Peaslee and Flint have resigned their professorships in the same institution.

TONGUE REMOVED BY THE ECRASEUR.—In the *New Orleans Medical News and Hospital Gazette* for February, Dr. Choppin reports a case of removal of the tongue, for cancer, with the ecraseur. The operation lasted fifteen minutes, and was accompanied with no hæmorrhage. This operation is usually accompanied with considerable hæmorrhage, and it is highly probable that the ecraseur is, in such cases, a valuable surgical appliance.—*Am. Med. Monthly.*

HYDATIDS OF THE LIVER, MAKING THEIR WAY OUT ALONG THE HEPATIC DUCT INTO THE ALIMENTARY CANAL.—A rather unusual case of hydatid disease of the liver, which ended fatally, was very recently under Dr. Barlow's care at Guy's Hospital. The patient was a man who was admitted with symptoms of hepatic disease and local peritonitis; he had had jaundice a month before his admission, which passed off. He survived but a short time; and, on making a post-mortem examination, a large hydatid cyst was discovered at the upper part of the liver, which had burst into the hepatic duct, its contents passing thence to the common bile duct and into the duodenum. Had circumstances been otherwise favorable, a recovery might have ensued, as this was an effort of nature to get rid of a visceral parasitic invasion. Dr. Wilks stated that he had met with one similar case, where the hydatid membranes passed into the alimentary canal, some of them coming away by stool, whilst others were ejected from the stomach during the act of vomiting. This termination of hepatic hydatids is by no means a common one. Sometimes they burst into the peritoneum, or into the chest. But in the human subject, although they are occasionally diagnosed during life, we have seldom any evidence to depend upon beyond symptoms of chronic hepatitis. The enlargement, however, has been known to simulate ascites, and tapping has been performed to afford relief. In Dr. Barlow's patient the true nature of the disease was not diagnosed, because he had not been sufficiently long under observation.—*Lancet*, Feb. 25, 1860.

DR. LIVINGSTONE.—News has been received of this gentleman and his party down to December 12th, when they were at the mouth of the Kongoue. The party had all suffered from fever, but were completely recovering and in good spirits.—*Lancet*, March 10.

Acupressure.—In an editorial in the *Medical Times and Gazette* (Feb. 25, 1860), it is stated that this method of arresting hemorrhage is fast coming into use among surgeons. "In Mr. Adams' case, which we noticed last week, the superiority of the needle over the ligature has been most apparent. The needle was removed forty-eight hours after the operation, and there was not a sign of bleeding or suppuration; while the ligature has remained, as usual, acting as a seton during the sloughing process it sets up. It should be observed that no part of the needle was left exposed on the raw surface of the wound; it was introduced half an inch above the cut point. This is a great advantage in amputation; for the cut surfaces can be brought into apposition, free at every point from the contact of any foreign body. Our provincial hospital surgeons are taking up the method in a most creditable manner. At Dundee, Carlisle, Greenock, and Liverpool, it has been applied with great success; and now that Mr. Adams has led the way in the metropolis, at a small hospital, his example will be followed sooner or later in the larger establishments, where the surgery partakes more of the character of stereotype. Mr. Bickersteth, of Liverpool, writes most warmly as to the facility of acupressure and its probable great results."

Successful Treatment of Vesico-vaginal Fistula.—Nine cases of vesico-vaginal fistula have been operated on in the Glasgow Infirmary during the last year, by Bozeman's method; and three others in private practice there. Of the twelve cases recorded, ten were completely cured by one operation, and two were unsuccessful. One of these two cases failed after repeated attempts; and the other was complicated by profuse hemorrhage from the bladder.—*Lancet*, March 3, 1860.

Seasoned Beef—Preservation of Milk.—M. Gaultier de Claubry, in the January number of the *Annales d'Hygiene et de Medécine Legale*—the like of which journal is not to be found either in Great Britain or in the United States—tells, in a short paper on the "Preservation of Milk," of the perfection to which the

preparing of meats for long voyages is now carried. The following is a remarkable example of this fact: Cans of meat, prepared in England, were sent, under seal of the Admiralty, to the West Indies, where they remained two years. On their return they were embarked on board the ship *Fury*, on the occasion of the voyage of Captain Parry to discover a north-west passage, and were, in part, kept in this vessel when it was blocked up in the ice, and abandoned by its crew. The expedition under Captain Ross, in search of these adventurous navigators, which was itself detained three years in these regions, found, at the spot where the *Fury* had been lost, a considerable quantity of these cans of preserved meat, which had been rolled about in different directions by the white polar bears, and which furnished very timely aid to the men of the relief vessels.

Escaping at length from this icy prison, Captain Ross returned to England, carrying with him some of the cans of meat, one of which he presented to the Queen, and others to the Admiralty, the Royal Society, the Academy of Sciences of Paris, and the Society of Encouragement of National Industry. M. Gaultier de Claubry was charged by this last Society with the duty of reporting on the condition of the gift which it had received, after the lapse of a period of *sixteen years* from the time of its being put up. The seasoned beef contained in this can was tasted by the members of the council of the Society, many public functionaries, pupils of the Polytechnic School, and the private pupils in the laboratory of M. Gaultier. There was not a dissentient voice in the declaration that the meat was as good as if it had just been prepared.

Of the different modes of preserving milk, the following is, M. Gaultier thinks, entitled to the preference. All liquids, he premises, dissolve, in variable proportions, the air to which they are exposed. Water, for example, contains a thirtieth of its volume, which, disengaged by heat, presents this remarkable feature, that it contains more oxygen than the atmosphere, and that the last portions hold more than 32 in 100. Milk forms no exceptions to this rule, and we can easily understand how this gas will accelerate change in this fluid.

The process for the preservation of milk, as recommended by M. Mabree, consists in heating it in a sand bath, or in vapor, until air ceases to be disengaged, and when introduced into appropriate vases or bottles, after its temperature has been reduced, the milk must

still be deprived of air. The vases are made of galvanized sheet iron, to the necks of which are soldered leaden tubes, by which they communicate with a reservoir filled with milk, previously heated and cooled in the mode just prescribed. The vases filled, the terminal tubes are closed with strong pincers, so as to flatten them completely; they are then cut and soldered at the ends. Objections have been made to the materials used for holding the milk, on the ground of the lead communicating an unpleasant flavor to the liquid, and the opacity of the vases not allowing us to see whether it is in a fit state of preservation.

Another and simpler process consists in heating the milk in glass bottles, on the necks of which conical lead tubes are soldered: the mouths of these, so soon as the milk boils up to them, and has parted with its air, are closed. The milk, in cooling, descends somewhat, and allows of its surface being seen through the neck of the bottle.

Milk thus preserved may be kept without change for an indefinite period. Of its dietetic value in a great variety of circumstances, especially on board ship, in long voyages, or in camp, one can easily conceive without entering into details on the subject. It is not always possible to prevent a partial separation of the cream on the upper part of the liquid. To remedy this inconvenience, it will be necessary to shake well the bottle, and submit its contents anew to heat. Sometimes even globules of butter will be found in the neck of the bottle.

Remarkable Case of Swallowing a Set of Artificial Teeth.—The following case is reported in the March No. of the Dental Cosmos, by M. Whillden Foster:

A gentleman of Wilmington, Del., thirty-five years of age, sanguine temperament, swallowed his artificial teeth at midnight on Wednesday. Physicians were called in, who fished for them, also tried the usual remedies, but all to no purpose; it was then concluded to let nature take her course (not doubting in the least that *her* course would be *death* to him,) when, to the astonishment of all, and his most unbounded delight, after a very painful and laborious stool, he found himself again in the possession of them. This did not take place until the following Monday, making the *round trip*

in five days. They were on gold plate, quite heavy, made eleven years ago. He remarked to me that he has not slept with them in his mouth since the catastrophe.—*Louisville Medical News.*

The Operation for Vesico Vaginal Fistula in Paris.—Dr. Battey says, in a letter to the *Atlanta Medical and Surgical Journal*, that, upon one of his clinic days, "Nelaton essayed the performance of Bozeman's operation for vesico-vaginal fistula—worked for two hours, as I am informed, very industriously in the location of three points of suture, and left the case finally in a condition which he acknowledged to be quite unsatisfactory. A cure was not anticipated, but what the result was, I have not yet learned. Nelaton is unquestionably a superior operating surgeon—perhaps has no successful rival in Paris—but seems, like all Parisian surgeons, to encounter special difficulties in this essentially American operation."

The complications of the operation in the manner probably attempted by the French surgeon, were, it may be supposed, the cause of the apparent awkwardness and delay. We have seen the operation successfully performed by simply uniting with the all-sufficient wire-suture, without the least haste, in thirty minutes, and suppose that in very favorable cases much less time would be required.

Extraction of a Bar of Lead from the Stomach. By John Bell, of Wapello, Iowa.

One of the most extraordinary operations in the annals of surgery has been performed recently in the extreme West, and deserves to be recorded on account of its boldness, successful result, and for the judicious method of procedure adopted by the surgeon. We find the case reported in full in the Boston Medical and Surgical Journal.

A man named Bates, on Christmas day, in Wapello, Iowa, performing some tricks with a bar of lead, *accidentally swallowed it.* He went at once to Dr. Bell of that place, but being tipsy his story

was not believed, and for *four days* he continued at his work, until the violent vomiting, abdominal soreness and loss of strength, compelled him to desist. The physician, finding that it was, indeed, true that he had swallowed the bar of metal, determined upon the operation of Gastrotomy, which is described as follows by Dr. Bell:

"*Operation.*—Wednesday, Jan. 3d. Present, Drs. Robertson, Cleaves, Graham, Taylor, and myself. The patient seemed much as on the previous evening. He had great prostration and faintness on attempting to rise. The patient having been properly placed and secured, chloroform was administered. It produced, at first, some nausea, and he threw up a quantity of black, fœtid, watery fluid. As soon as insensibility ensued, I made an incision from the point of the second false rib to the umbilicus, dividing the skin and cellular membrane; thence through the abdominal muscles to the peritoneum, which I laid bare the whole length of the incision. I then made a minute opening at the lower end of the section, through the peritoneum, passed in the director, and with a probe-pointed bistoury divided it through the entire length of the incision. The division of the peritoneum produced a spasmodic contraction of the muscles of the abdomen, and a large quantity of the omentum and bowels was ejected from the orifice. Increasing the chloroform controlled the spasm, and I replaced the bowels as speedily as possible, and passed my hand inward and upward through the incision, grasped the stomach, and immediately *discovered the bar of lead* and its position. It lay in a direction from right to left, the upper end resting against the walls of the stomach to the right of the cardiac orifice; the lower end in the greater curvature of the stomach, to the left of and below the pylorus. As it was impracticable to reach the upper end, I seized the bar between my thumb and middle finger, and with the forefinger on the lower end of it, I retraced it upward and backward, for the purpose of making the incision in the stomach as high up as possible. I then passed a scalpel in, along the side of the forefinger as a director, and divided the coats of the stomach immediately at the end of the bar, making the incision parallel with the muscular fibres, and not larger than to admit of the removal of the lead. I then introduced a pair of long forceps, seized and drew out the lead, and placed the stomach in its natural position. The external orifice was closed with the ordinary interrupted suture

and adhesive straps, a compress applied, and a roller around the body.

The time occupied in operating was twenty minutes. Considerable delay was occasioned by the protrusion of the contents of the abdomen, which had to be replaced before the operation could proceed. As soon as the effects of the chloroform passed off, a quarter of a grain of sulphate of morphia was administered, and the patient left in charge of a judicious medical attendant."

The after treatment of this case was simple, the patient was kept quiet—permitted to eat but little, and the operator had the pleasure of seeing him walking about on the 14th day convalescent.

The length of the bar was 10¾ inches, and its weight 9½ ounces.

Chloroform in Sleeplessness.—Fonassagrives recommends (*Bull. de Thèr.* LVI. p. 401) 5–10 drops of chloroform in mucilaginous mixture, in agrypny when opiates are ineffectual or contra indicated.

Relief of the Tenesmus of Dysentery.—Ansaloni, in his inaugural dissertation, reports the very favorable results obtained by Dr. Leclerc, of Tours, by the combined employment of belladonna, or strammonium and calomel, in dysentery. A large plaster of extr. of belladon. or strammonii (℥iss) is placed on the regio pubis, and every morning and evening for a few days, a grain and a half of calomel administered. The belladonna and strammonium may be alternated. Tenesmus soon yields to this treatment, as well as all other symptoms of dysentery.

New Edition of Hippocrates.—"We learn," says the *London Athenæum*, "that a new and splendid edition of 'Hippocrates' is now in course of publication at Utrecht, under the auspices of the Royal Academy of Sciences of the Netherlands, and with Dr. Frans Zacharias Ermerins for its editor. It is contemplated, indeed, by the Academy to add to the works of Hippocrates those of the other ancient medical writers whose reputation may entitle

them to such a distinction. The Academy has been fortunate in securing the services of Dr. Ermerins to the criticism and interpretation of Hippocrates. Prefixed to the first volume, we find a preface and copious prolegomena, in the former of which the writer explains the necessity that there existed for a new edition of the Physician of Cos, notwithstanding the labors of Mr. Littré, whose edition of "Hippocrates,' by the way, although begun in 1839, is not yet completed."—*Med. and Surg. Reporter.*

Even in England, where we have long enjoyed a continental reputation for indulging our eccentricities, if a man wander many hairs' breadths from the beaten path, two surgeons will lock him up, and a judge and jury, upon the testimony of a footman that his master was not exactly like other people, will set aside his will.—*London Times.*

Light appears to have an influence in the transformations of amylaceous matters, dextrine, etc. By its sole influence it so modifies amylaceous matters as to turn them into sugar and dextrine when they are exposed to the solar rays at a temperature of 100 cent. It also would appear that animal starch (glycogenous matter) is transformed into sugar more rapidly and more abundantly under the influence of light than in the dark. It is very remarkable that animal fecula remains in the liver of frogs without becoming starch during winter, just as the vegetable fecula ceases its transformations. In these animals, also, the greatest richness in sugar coincides with the period of the ripening of fruits. The glycogenous matter may remain unchanged in the liver, like starch in tubers and grains, if the frogs are entirely removed from the light; then no sugar is formed. In this way we may sxplain the rapid disappearance after birth of the glycogenous matter which exists so abundantly in the skin of the fœtus.—*Report by M. M. Corvisart and St. Victar.*